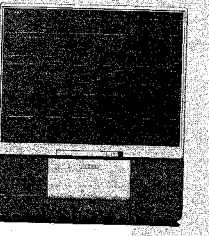
TOSHIBA

SERVICE MANUAL

COLOUR TELEVISION

F5SS Chassis

55PJ5UE, 55PJ5UH
55PJ5UC
61PJ5UE, 61PJ5UH
61PJ5UC



PRINTED IN JAPAN, Jan., 1996 (S0)

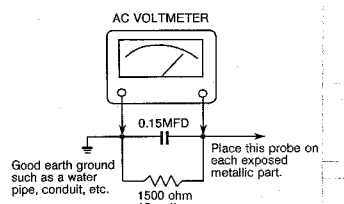
X-RAY RADIATION PRECAUTION

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 31.5 kV at zero beam current (minimum brightness) under a 220V AC power source. The high voltage must not, under any circumstances, exceed 32.0 kV.
   Each time a receiver requires servicing, the high voltage should be checked following the HIGH VOLTAGE CHECK procedure in this manual. It is recommended that the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. This receiver is equipped with a Fail Safe (FS) circuit which prevents the receiver from producing an excessively high voltage even if the B+ voltage increases abnormally. Each time the receiver is serviced, the FS circuit must be checked to determine that the circuit is properly functioning, following the FS CIRCUIT CHECK procedure in this manual.
3. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
4. Some part in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY PRECAUTION

WARNING : Service should not be attempted by anyone unfamiliar with the necessary precautions on this receiver. The following are the necessary precautions to be observed before servicing this chassis.

1. An isolation Transformer should be connected in the power line between the receiver and the AC line before any service is performed on the receiver.
2. Always discharge the picture tube anode to the CRT conductive coating before handling the picture tube. The picture tube is highly evacuated and if broken, glass fragments will be violently expelled. Use shatter proof goggles and keep picture tube away from the unprotected body while handling.
3. When replacing a chassis in the cabinet, always be certain that all the protective devices are put back in place, such as; non-metallic control knobs, insulating covers, shields, isolation resistor-capacitor network etc.
4. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts etc. to be sure the set is safe to operate without danger of electrical shock. Plug the AC line cord directly into a 220V AC outlet (do not use a line isolation transformer during this check). Use an AC voltmeter having 5000 ohms per volt or more sensitivity in the following manner: Connect a 1500 ohm 10 watt resistor, paralleled by a 0.15 mfd, AC type capacitor, between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1500 ohm resistor and 0.15 mfd capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.3 volts RMS. This corresponds to 0.2 milliamp. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.


AC VOLTMETER
0.15MFD
Good earth ground such as a water pipe, conduit, etc.
1500 ohm 10 watt
Place this probe on each exposed metallic part.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the international hazard symbols on the schematic diagram and the parts list.
Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create shock, fire, X-ray radiation or other hazards.

Before Installation

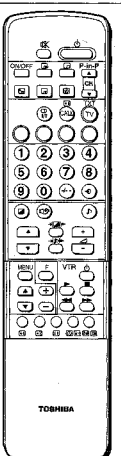
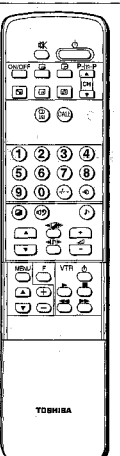
To identify your TV

This manual applies to the two groups of models described below and there are slight differences among them.

Group 1	Group 2
55PJ5UE, 61PJ5UE	55PJ5UH 61PJ5UH 55PJ5UC 61PJ5UC

Before operating the TV, please check:
— the model number of your TV.
— what is equipped with your TV according to the table below.

Difference table

Item / Model	Group 1	Group 2
Overview of the Remote Controller		
Teletext	Equipped	Not equipped

In this manual, the instructions are given using the model with maximum functions.

Features

AV terminals for external equipment connection
- Three sets of video/audio inputs are located on the rear. The video/audio input 3 is located on the front as well as the rear.
- Two S-VIDEO terminals on the rear (video/audio input 1 and 3) and one on the front (video/audio input 3)
- One set of monitor output terminals
- One set of fixed audio output terminals

Selectable picture and selectable sound
Allows one-touch selection of your favourite picture quality and tone quality among three preset modes and one user-set mode.

NICAM and German stereo/bilingual broadcasts receivable

PIP (Picture-in-Picture)
Shows two different pictures on the screen simultaneously: a TV programme and the other from an external video source or another TV programme, with the two built-in UHF/VHF TV tuners.

OFF-timer and ON-timer
Turns off the TV automatically and will turn it back on at a preset time.

TELETEXT/FASTEXT (55PJ5UE/61PJ5UE only)

Auto-Power-Off
If a vacant channel is tuned or TV broadcast for a day is finished, the TV will automatically turn off after about 15 minutes. However, if the Off-timer is operating, it takes precedence. This Auto-Power-Off feature does not operate in the VIDEO or blue background OFF mode.

No-Signal-Mute
When the system receives a TV signal from the aerial input (IF) which does not contain a video signal, the sound will be muted. This No-Signal-Mute feature does not operate in the blue background OFF mode.

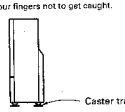
Installation

- INSTALL the unit in a room where direct light will not fall upon the screen. Total darkness or a reflection on the picture screen may cause eyestrain. Soft and indirect lighting is recommended for comfortable viewing.
- ALLOW enough space between the unit and the wall for proper ventilation.
- AVOID excessively warm locations to prevent possible damage to the cabinet or components.
- RATED VOLTAGE: AC 110 V – 240 V, 50/60 Hz

CAUTION:
Avoid displaying stationary images on your TV screen for an extended period of time. Stationary patterns generated by the PIP display, computer displays, TELETEXT, etc. can become permanently ingrained on the picture tube. This damage is not protected by your warranty as it is the result of misuse. If you use your TOSHIBA Television to display still images, it is always advisable to reduce the brightness and contrast settings. Never leave a PIP display, computer display or videogame unattended.

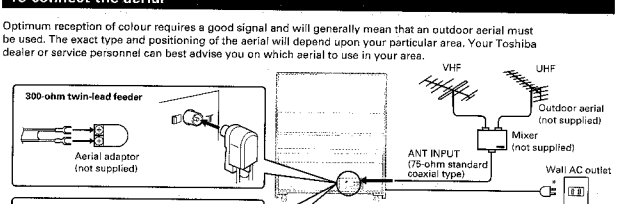
■ Precautions when moving and installing the unit

- This Projection Television is provided with casters at its bottom, with the object of facilitating its movement.
  Depending on the material of the floor, it may get scratched when the unit is moved. So, take utmost care when moving the unit.
- When you want to fix the Projection Television at a given place, or use it on the carpet, make sure of using the accompanying caster trays (4 units). When placing the caster tray beneath the casters, take utmost care for your fingers not to get caught.



To connect the aerial

Optimum reception of colour requires a good signal and will generally mean that an outdoor aerial must be used. The exact type and positioning of the aerial will depend upon your particular area. Your Toshiba dealer or service personnel can best advise you on which aerial to use in your area.



* The plug type may vary depending on the models.

Using the ATT (attenuator) switch (See page 6.)
When visual interference occurs, set the ATT switch to ON using a small screwdriver.

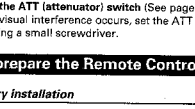
Notes

- When using an outdoor aerial, disconnect the leads of the indoor aerial, if connected, from the aerial terminal socket.
- It is recommended that the 75-ohm coaxial cable be used to eliminate interference and noise which may occur due to radio wave conditions.
- The aerial cable should not be bundled with the power cord and the like.

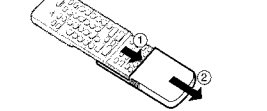
To prepare the Remote Controller

Battery installation

1 Remove the battery cover.

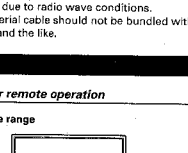


2 Insert two size AAA batteries matching the +/– polarities of the battery to the +/– marks inside the battery compartment.



Tips for remote operation

Effective range

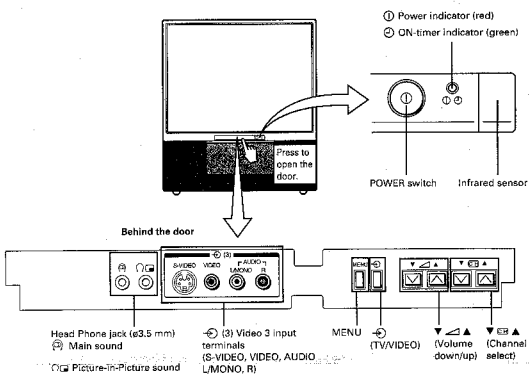


- The battery life should be about one year under normal use.
- When the Remote Controller will not be used for a long period of time or when the batteries are worn out, remove the batteries to prevent leakage.
- Do not throw the batteries into a fire. Dispose of used batteries in the specified manner.
- Do not drop, dampen or disassemble the Remote Controller.

Names and Functions of Controls

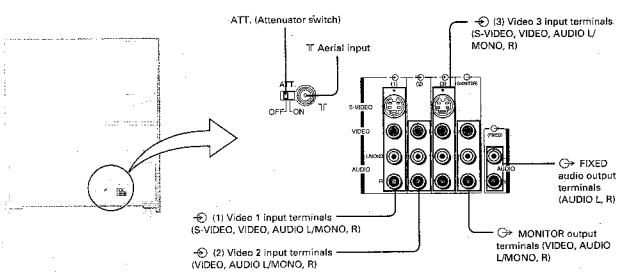
• The following describes the name of each part of the TV and Remote Controller.

Front

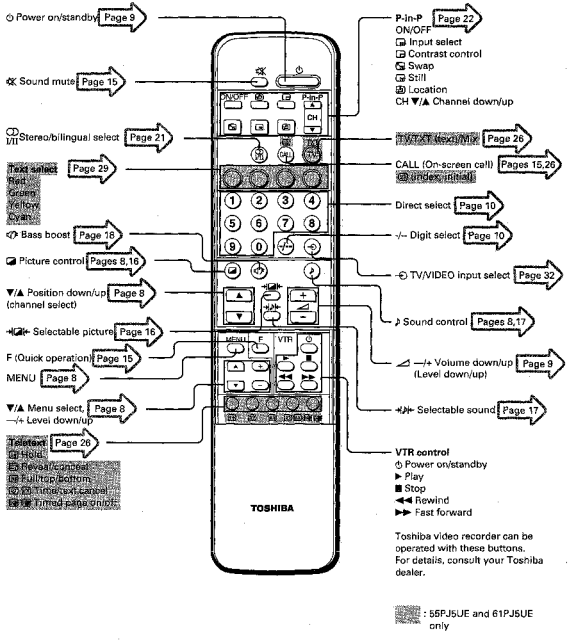


Note
Functions of MENU, ⊕, ▼ ◿ ▲ and ▼ ⊡ ▲ are also provided to the Remote Controller.

Back

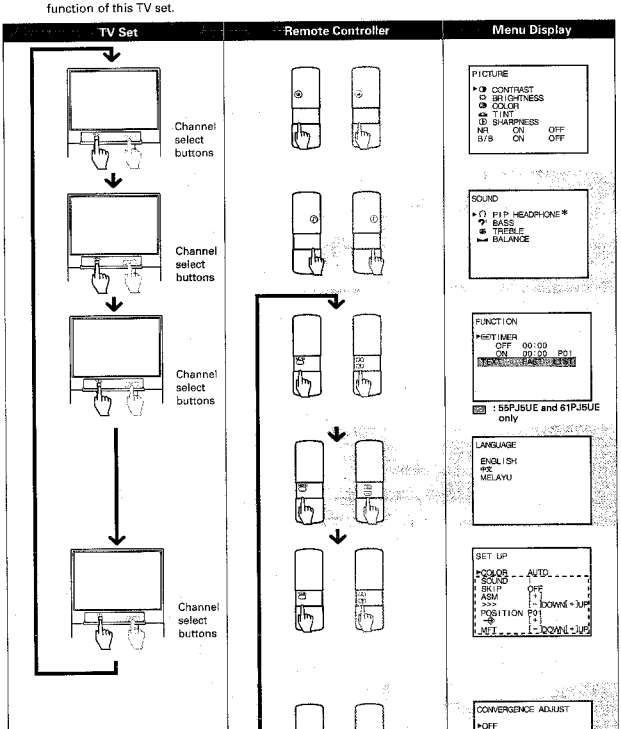


Remote Controller



Menu Function

- Before watching the TV, please familiarize yourself with this method to use the menu function of this TV set.



Notes

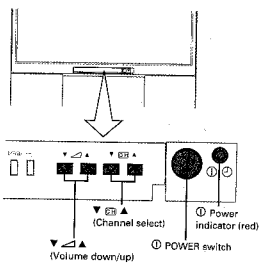
- The halftone illustrations above indicate that you press the button(s) to select the items on each function menu.
- The [ ] area on the SET UP menu display does not appear in the video mode.

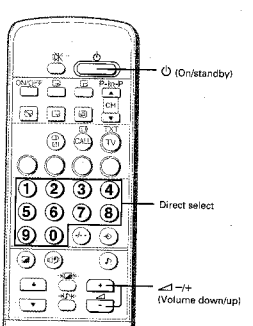
* The "PIP HEADPHONE" display appears only when PIP function is activated.

Turning the Power On/Off

- The following describes how to turn the TV on/off using the TV's main switch and the Remote Controller.

To turn the power on/off

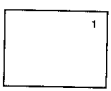




To turn the power on/off

1 Press the POWER switch. The red power indicator lights up.

2 If no picture appears, press the ⏻ button on the Remote Controller.



Notes

- You can also turn on the set by pressing one of the direct select buttons (0 – 9) instead of the ⏻ button. By pressing the number (one digit only) where the channel you want to watch is preset, you can turn on the set and channel selection at the same time. (For the channel preset procedures, refer to pages 11 and 12.)
- When the Remote Controller is not at your hand, you can turn on the set by pressing the ▼◿▲ or ▼CH▲ button on the TV set.

3 Adjust the sound volume with the volume down/up buttons.

4 To switch to the standby mode, press the ⏻ button.

5 To turn off completely, press the POWER switch.

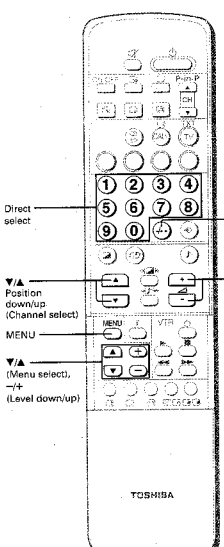
Watching TV Programmes

• You can watch TV programmes being broadcast on the preset channels.

Technical terms in this manual

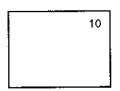
Channel: the number or abbreviation of the broadcast station frequency in each country (SBC, CH5, CH8, CH12, etc.)
Position: the number on your TV where channels are stored (0 – 99)

To watch a TV programme



To select a TV programme

1 Select the desired programme.



Using the direct select buttons

- To select a one-digit position number: press the -/-- button to display "–" and 0 – 9 to select a number. (0 – 9)
- To select a two-digit position number: press -/-- to display "–" and press 0 – 9 to select a number. (10 – 99)

Using the position down (▼)/up (▲) buttons
Press ▼ to select lower position numbers; ▲ to select higher ones.

2 Adjust the sound volume with the ◿ –/+ buttons.

If the colour or sound of a certain channel is abnormal

The colour or sound system setting may be incorrect.
Press the MENU button to call up the SET UP menu on the right and change the setting as follows:
For the systems in each country, refer to page 34.

- **When the colour of the picture is abnormal**
  Press the menu select ▼/▲ buttons to move the cursor (▶) to COLOR and select the correct colour system with the level down (–)/up (+) buttons.
  AUTO, PAL, SECAM, 443NTSC and 358NTSC will appear cyclically.
- **When the sound is abnormal**
  Press the menu select ▼/▲ buttons to move the cursor (▶) to SOUND and select the correct sound system with the level down (–)/up (+) buttons.
  I, DK, M and BG will appear cyclically.

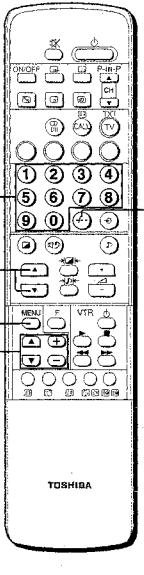
If the sound or picture of every channel is abnormal

Preset the channels using the ASM (Automatic Search Memory). See page 11.

Tuning in

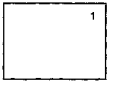
- First, use the ASM (Automatic Search Memory) function to preset all active channels in your area automatically.
  Then, arrange the preset channels with the MANUAL SEARCH (>>>), MFT (Manual Fine Tuning) and SKIP functions so that you can tune into only desired channels.
- This section shows how to tune in channels using mainly the Remote Controller. You can also perform the system select, ASM, MANUAL SEARCH (>>>), MFT and SKIP operations using the buttons on the TV set. See page 8.

To preset channels (ASM)



ASM (Automatic Search Memory)

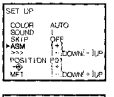
1 Select the head of the position number to start the ASM with the position down (▼)/up (▲) buttons or the direct select buttons.



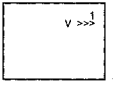
2 Press the MENU button repeatedly to call up the SET UP menu on the screen.

3 Confirm that "COLOR" is set to "AUTO" and "SOUND" is set to proper system.
If not, press the menu select ▼/▲ buttons to move the cursor (▶) to "COLOR" or "SOUND" and press the level down (−)/up (+) buttons to select each proper system. (See page 34.)

4 Press the menu select ▼/▲ buttons to move the cursor (▶) to "ASM".



5 Press the level up (+) button to start the ASM. All active channels will be preset automatically. When presetting is complete, the initial position number will reappear.



After presetting

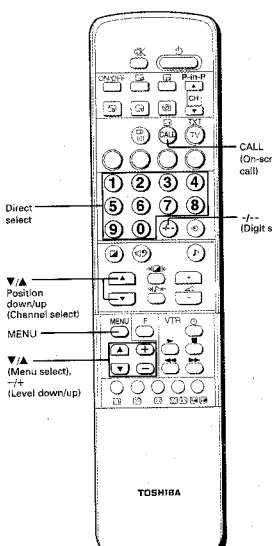
Check the preset channels by pressing the position down (▼)/up (▲) buttons.

- If the picture or sound of a certain channel is not good, re-tune the channel using the ASM, MANUAL SEARCH (>>>) or MFT function. (See page 12 and 13).
- If the colour of a certain channel is abnormal, automatic colour system selection (AUTO) may malfunction, or sound system selection is wrong. In such a case, select another colour and/or sound system.

Tuning in (continued)

- Use the MANUAL SEARCH (>>>) function if desired channels cannot be preset with the ASM or if you would like to preset the desired channels to specific position numbers one by one.
- It is convenient if you put the channel numbers to the same position numbers using MANUAL SEARCH (>>>) and SKIP functions.
- The following describes how to tune in channels with the MANUAL SEARCH (>>>) function using mainly the Remote Controller. You can also perform the MANUAL SEARCH (>>>) operation using the buttons on the TV set. See page 8.

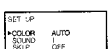
To preset channels (Manual search)



Manual search (>>>)

1 Select a desired position number to preset with the position down/up or direct select buttons.

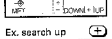
2 Press the MENU button repeatedly to call up the SET UP menu on the screen.



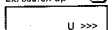
3 Press the menu select ▼/▲ buttons to move the cursor (▶) to ">>>".

4 Press the level down (–)/ up (+) buttons to start searching. The level down (–) button searches for lower-numbered channels; the level up (+) button for higher-numbered channels. Repeat this process until you can get the desired channel.

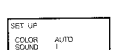
Ex. search up (+)



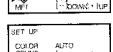
Ex. search down (–)



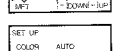
5 When the desired programme is shown, press the menu select ▼/▲ buttons to move the cursor (▶) to "–◈–".



6 Press the level up (+) button to memorize the channel at the current position.



7 When you desire to store another channel at another position, move the cursor (▶) to "POSITION" with the menu select ▼/▲ buttons and select a desired position with the level down (–)/up (+) buttons. Then, press the menu select ▼/▲ buttons to move the cursor (▶) to ">>>" and repeat the steps 4 to 6. Or, repeat the steps 1 to 7 after the display disappears.

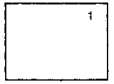


MFT (Manual Fine Tuning) and to skip unnecessary position numbers

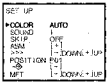
MFT (Manual Fine Tuning)

The adjustments below are not necessary under normal conditions. However, in areas of inferior broadcast conditions where adjustment is necessary for a better picutre, adjust the tuning with the MFT (Manual Fine Tuning).

1 Select the channel you want to fine-tune with the position down (▼)/up (▲) buttons or direct select buttons.



2 Press the MENU button repeatedly to call up the SET UP menu on the screen.



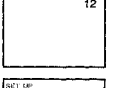
3 Press the menu select ▼/▲ buttons to move the cursor (▶) to "MFT".

4 Press the level down (–)/up (+) buttons until the best possible picture and sound are obtained.
[–]DOWN or [+]UP is highlighted while tuning in.

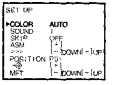
To skip a position number

After presetting the channels, you may skip unnecessary position numbers so that only the channels you want to watch are selected.

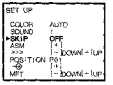
1 Select the position number to be skipped with the position down (▼)/up (▲) buttons or direct select buttons.



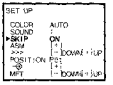
2 Press the MENU button repeatedly to call up the SET UP menu on the screen.



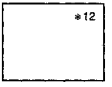
3 Press the menu select ▼/▲ buttons to move the cursor (▶) to "SKIP".



4 Press the level down (–)/up (+) buttons to select "SKIP ON".



5 Press the CALL button to turn off the SET UP menu display.
Select the position number to be skipped with the direct select buttons. The * mark appears to the left of the position number.
The position number will then be skipped when you select the programme with the position down (▼)/up (▲) buttons.



To restore a skipped position number

1 Select the position number you want to restore with the direct select buttons.

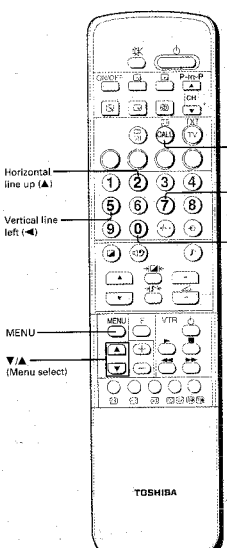
2 Press the MENU button to call up the SET UP menu display and press the menu select ▼/▲ buttons to move the cursor (▶) to "SKIP".

3 Press the level down (–)/up (+) buttons to select "SKIP OFF".

Adjusting the Colour Convergence

- This projection TV uses three separate TV tubes: a red one, a green one, and a blue one. The red, green and blue images are projected onto the screen, where they converge to form a full colour picture. You can see a clear picture only when they converge correctly.
- Your dealer should adjust the colour convergence when your TV is delivered. However, convergence may drift over time or if you move the TV. If you can see clear images on the screen, skip this procedure.

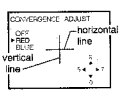
To align the colour



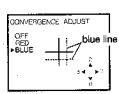
To check and align the colours

1 Press the MENU button repeatedly to display the CONVERGENCE ADJUST menu.

2 Press the menu select ▼/▲ buttons to move the cursor (▶) to "RED" or "BLUE". One vertical and one horizontal line appear.

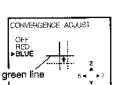


3 If you see separate coloured lines, you have to align the colours. For example, when the blue line is shifted, press the menu select ▼/▲ buttons to move the cursor (▶) to "BLUE".

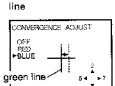


Ex: blue line alignment

4 Press the "2 (up)", "0 (down)", "5 (left)" and "7 (right)" buttons to converge the blue line into the green line.



Adjusting the horizontal line



Adjusting the vertical line

5 When you adjust the red line, press the menu select ▼/▲ buttons to move the cursor (▶) to "RED". Then, repeat step 4.

To end the convergence adjustment

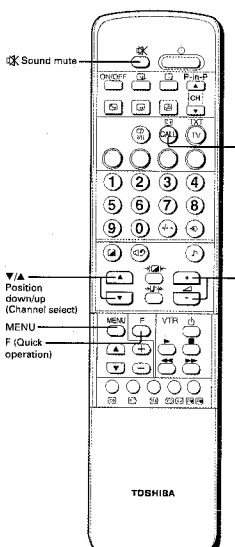
1 Press the menu select ▼/▲ buttons to move the cursor (▶) to "OFF". The vertical and horizontal lines disappear.

2 Press the MENU button or the CALL button.

Convenient Picture and Sound Controls

• The following describes how to operate using mainly the Remote Controller.
You can also perform this operation using the MENU button on the TV set. See page 8.

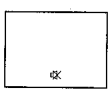
Sound muting and on-screen calling



To mute the sound

The muting function is convenient when you need to pay attention to surrounding sounds, answer a phone call, receive a visitor, etc.

1 Press the 🔇 button.
The 🔇 mark appears on the screen.



2 To restore the sound, press the 🔇 button again.

To retain the on-screen display

Generally, the programme number and the ⊂D (stereo) or I/II (bilingual) reception indicator will disappear within 5 seconds once the programme number has been changed.

1 To retain the programme number on the screen, press the CALL button.

2 To return to the automatic-disappearing mode, press the CALL button again.

To turn off the menu function display instantly

Generally, the menu function display (FUNCTION, LANGUAGE, SET UP) is retained for 15 seconds by pressing the MENU button once.
To turn off the display instantly, press the CALL button.

To select the position number rapidly

When you select a position number, press the F button and the position down/up ▼ or ▲ button simultaneously. The position number decreases or increases by 10.

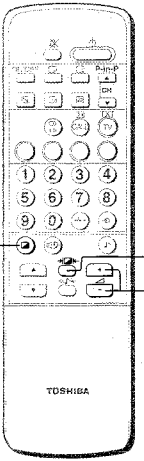
To change the volume rapidly

When you adjust the volume, press the F button and the ◁ − or + button simultaneously. The volume changes rapidly.

Convenient Picture and Sound Controls (continued)

Selectable picture

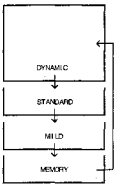
You can select the picture quality instantly among three preset modes and one user-set mode.



To select the picture mode

Press the →◪← button to select the desired picture quality.

DYNAMIC, STANDARD, MILD and MEMORY (user-set) can be selected cyclically.



Mode	Picture quality
DYNAMIC	bright and dynamic picture
STANDARD	standard picture
MILD	soft and moody picture
MEMORY	the picture quality you set

To set the desired picture quality to the MEMORY position

1 Press the ◪ button. The picture control menu appears.

2 Press the ◪ button repeatedly to move the cursor (▶) to the desired adjusting item, and press the ◿ −/+ buttons to adjust the level.

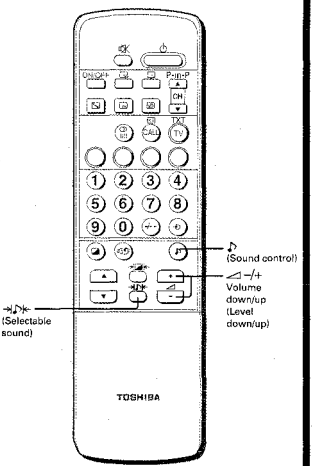
Item		Pressing −	Pressing +
◑	CONTRAST	weaker	stronger
☼	BRIGHTNESS	darker	lighter
◙	COLOR	paler	deeper
◓	TINT *	purplish	greenish
▷	SHARPNESS	softer	sharper

* for NTSC only

The adjusted level is stored in the MEMORY position.

Selectable sound

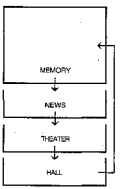
You can select the sound quality instantly among three preset modes and one user-set mode.



To select the sound mode

Press the ♪ button to select the desired sound quality.

MEMORY (user-set), NEWS, THEATER and HALL can be selected cyclically.



Mode	Sound quality
MEMORY	the sound quality you set
NEWS	news/dialogue
THEATER	a movie theater filed with a dynamic sound
HALL	a concert hall filled with a rich warm sound

To set the desired sound quality to the MEMORY position

1 Press the ♪ button. The sound control menu appears.

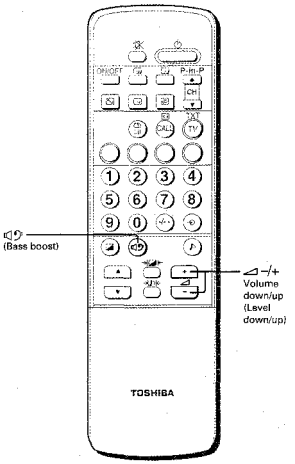
2 Press the ♪ button repeatedly to move the cursor (▶) to the desired adjusting item, and press the ◁ –/+ buttons to adjust the level.

Item		Pressing	
		–	+
BASS		weaker	stronger
TREBLE		weaker	stronger
BALANCE		decreases the right channel	decreases the left channel

The adjusted level is stored in the MEMORY position.

Convenient Picture and Sound Controls (continued)

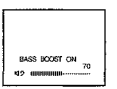
To select the sound effect



To use the bass boost

1 Press the button repeatedly until BASS BOOST ON is displayed.

2 While the BASS BOOST ON is displayed on the screen, adjust the bass boost level using the −/+ buttons.



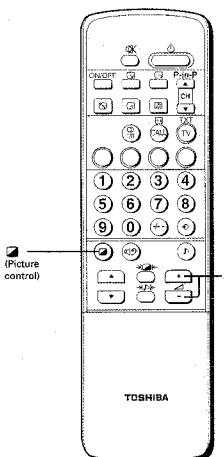
3 To turn off the bass boost, press the button to display BASS BOOST OFF.

Note
The selected ON or OFF mode and the adjusted level are stored in the MEMORY position of the selected sound mode.

Using Other Menus

- The following describes how to operate using mainly the Remote Controller.
  You can also perform this operation using the MENU button on the TV set. See page 8.

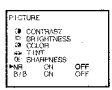
Picture noise reduction and blue background



To reduce the picture noise

If the signal being received is weak and the picture is blurry, activate the noise reducer to improve the picture.

1 Press the ◪ button repeatedly to move the cursor (▶) to "NR".



2 Press the ◿ –/+ buttons to select "ON".

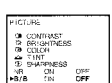
To turn off the picture noise reduction

Repeat steps 1 and 2 and select NR OFF.

To turn the screen blue

With the blue background function ON, the TV will automatically turn blue when no signal is being received.

1 Press the ◪ button repeatedly to move the cursor (▶) to "B/B".



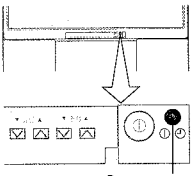
2 Press the ◿ –/+ buttons to select "ON".

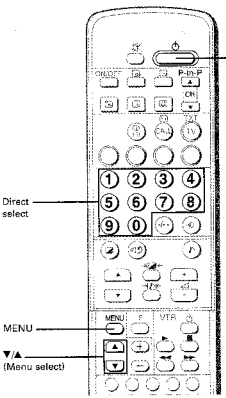
To turn off the blue background

Repeat steps 1 and 2 above and select B/B OFF.

Using Other Menus (continued)

ON/OFF timer





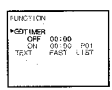
If you enter an incorrect number while setting the ON/OFF timer
Re-enter the time with the direct select buttons.

Note
The maximum presettable time for the ON/OFF timer is 12:59.

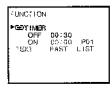
To turn off the TV automatically (OFF timer)

With the OFF timer, the TV will automatically switch to standby mode at a preset time.

1 Press the MENU button repeatedly to call up the FUNCTION menu on the screen. Press the menu select ▼/▲ buttons to select OFF (OFF timer).



2 Press the direct select buttons to set after how many hours and minutes you want the TV to switch into the standby mode.



Ex. 30 minutes:
Press 0, 0, 3 and 0.
Once the preset time has elapsed, the TV will automatically go into standby mode.

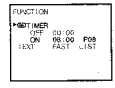
To cancel the OFF timer
Press the ⏻ button twice (to turn off the TV once and turn it on again) or in step 2 above set the OFF time to 00:00.

To turn on the TV automatically (ON timer)

With the ON timer, the TV will automatically turn on to a preset channel at a preset time.

1 Press the MENU button repeatedly to call up the FUNCTION menu on the screen. Press the menu select ▼/▲ buttons to select ON (ON timer).

2 Press the direct select buttons to set the TV ON time and position number. The colour of the ⏲ ON-timer indicator will change from red to green.



Ex. 8 hours, position number 6:
Press 0, 8, 0, 0, 0 and 6.

3 Press the ⏻ button to switch the TV to standby mode.

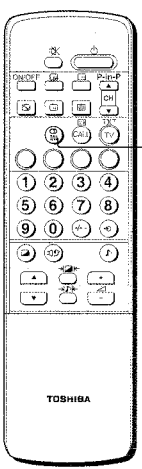
At the preset time, the TV will turn on automatically.

To cancel the ON timer
Push the main switch to turn off the TV or in step 2 above set the ON time and position number to 00:00 P00.

Enjoying Stereo and Bilingual Broadcasts

• The unit receives both stereo and bilingual broadcasts transmitted in either the NICAM or German stereo/bilingual broadcast system.

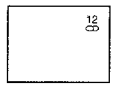
To select the stereo/bilingual mode



(Stereo/ bilingual select)

Stereo programmes

1 When a stereo programme is received, CD appears.

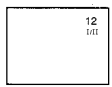


2 Press the (Stereo/ bilingual select) button to select the stereo/monaural mode. CD/I, CD/II and ▽ appear cyclically on the screen.

Display	Reception mode
CD/I	Stereo
CD/II	Stereo
▽	Monaural

Bilingual programmes

1 When a bilingual programme is received, I / II appears.



2 Press the (Stereo/ bilingual select) button to select the sound to be heard. The sound differs according to the transmission system: NICAM or German stereo/ bilingual broadcast. CD/I, CD/II and ▽ appear cyclically on the screen.

Display	Sound to be heard	
	NICAM	German stereo/ bilingual broadcast
CD/I	Sub I sound	Main sound
CD/II	Sub II sound	Sub sound
▽	Main sound	Main sound

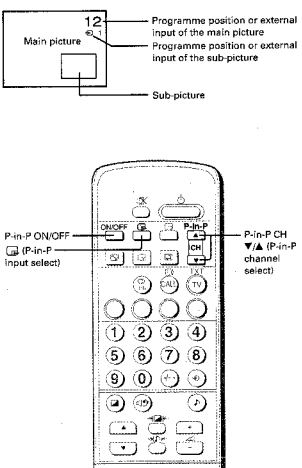
If stereo sound is noisy
If a broadcasting signal is not strong enough and noise-free stereo sound is not available, press the (Stereo/ bilingual select) button until the ▽ indicator appears on the screen (monaural mode). The noise should be reduced.

ADVANCED OPERATION

Watching Picture-in-Picture

- The unit is capable of displaying two pictures simultaneously. This is called the Picture-in-Picture function. A TV picture or a picture from external source equipment such as a VTR can be displayed as a sub-picture.

To display a sub-picture



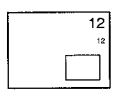
Notes

- If there are no signals for the main and sub-pictures or if the signals are weak, the Picture-in-Picture function may not work correctly.
- If the colour systems of the main picture and sub-picture are different, the size of the sub-picture may slightly differ and the quality of the sub-picture may be impaired.
- The Teletext cannot be displayed as the sub-picture. **(Teletext is featured only for 55PJ5UE/61PJ5UE.)**

To display a TV picture as a sub-picture

1 Turn on the TV and select the desired programme.

2 Press the P-in-P ON/OFF button.
A sub-picture with a dark grey frame will appear on the screen.



3 Press the P-in-P CH ▼/▲ button to select the desired programme for the sub-picture.

4 To turn off the sub-picture, press the P-in-P ON/OFF button again.

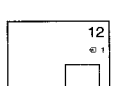
To display a picture from an external source as a sub-picture

Connect external source equipment for the sub-picture. (For connection, see page 32.)

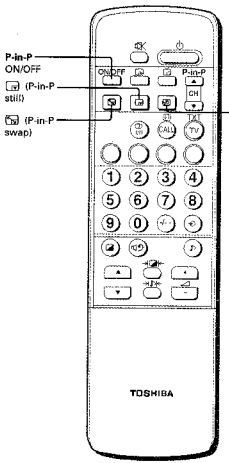
1 Turn on the TV and select the desired programme.

2 Press the P-in-P ON/OFF button to display a sub-picture.

3 Press the [P] button repeatedly to select the input for the sub-picture.
A TV picture, the picture from the video input 1 (→ 1), video input 2 (→ 2) and video input 3 (→ 3) will appear cyclically.

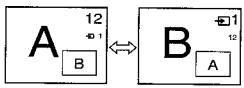


Various Picture-in-Picture operations



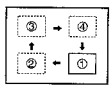
To switch the main and sub-pictures

Press the button when a sub-picture is displayed. The main and sub-pictures are switched. Press the button again to switch again.



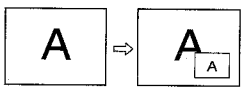
To change the position of the sub-picture

Press the button repeatedly when a sub-picture is displayed. The display position of the sub-picture will change in order ① to ④.



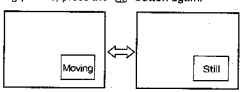
To display a frozen frame of the main picture as a sub-picture

When no sub-picture is displayed, press the button. The main picture displayed at that moment will appear as a still picture with a red frame in the sub-picture position. To turn off the sub-picture, press the P-in-P ON/OFF button.



To freeze the sub-picture

Press the button when a sub-picture is displayed. The sub-picture will be a still picture. To return to a moving picture, press the button again.

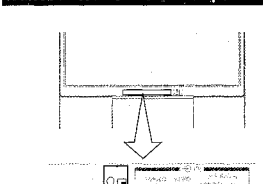


Note
If the main picture is in the Teletext mode, the Teletext mode will be cancelled by pressing the button.
(Teletext is featured only for 55PJ5UE/61PJ5UE.)

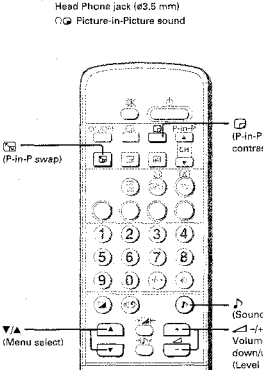
Watching Picture-in-Picture

(continued)

Various Picture-in-Picture operations (continued)

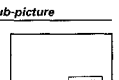


Head Phone jack (ø3.5 mm)
Picture-in-Picture sound



To adjust the contrast of the sub-picture

1 Press the button to display on the right.



Item		Pressing	
		−	+
◑	CONTRAST	weaker	stronger

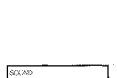
2 Press the ◿ −/+ button to adjust the level.

Note
The TV screen illustration above is for models with the TELETEXT feature. Models without that feature display "PIP CONTRAST".

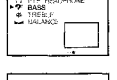
To listen to the sound of sub-picture

1 Put a headphone plug (not supplied) in the headphone jack on the TV set.

2 Press the ♪ button. The sound control menu appears.



3 Press the ▼/▲ button to move the cursor (▶) to "PIP HEADPHONE" and press the ◿ −/+ button to adjust the level.

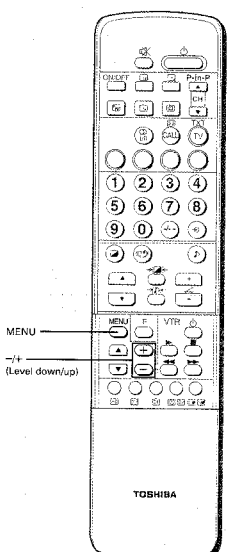


Notes
- Output from the headphone jack is monaural.
- When a stereo/bilingual broadcast is received on the main picture, output from the headphone jack is the ▽ (monaural) sound (page 21) if you press the button to switch between the main and sub pictures.
- There is no output from the headphone jack when the PIP function is not activated.

Selecting the Language for the OSD (On-Screen Display)

To select the language for the OSD

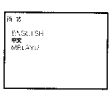
Use this function to switch the language for the OSD to either English, Mandarin or Malayan.



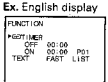
To select the language for the OSD

1 Press the MENU button repeatedly to call up the LANGUAGE selection menu on the screen.

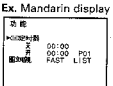
2 Press the level down (–)/ up (+) buttons to select the desired language. The selected language is displayed in magenta and the screen menu is automatically displayed in that language.



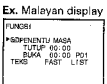
Ex. English display



Ex. Mandarin display



Ex. Malayan display

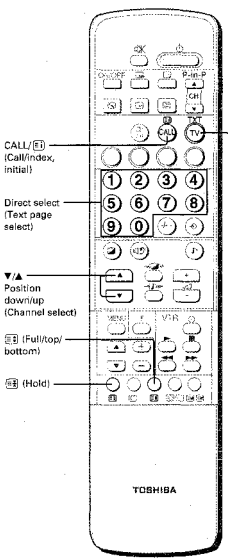


VIEWING TELETEXT (48PJ5UE, 55PJ5UE and 61PJ5UE only)

Viewing Normal Text/ Use of the Teletext Buttons

- The TV is capable of showing both normal text and Fastext information on the screen. The Teletext buttons on the remote control have the same function for both.

To view normal text



To display a page of text

1 Select a TV station with the text service desired.

2 Press the TV/TXT button.
The index page will appear.

3 Enter the 3-digit page number using the direct select buttons.
Ex. Page 10: Press 0, 1 and 0.

To superimpose the text on a TV picture ( )

Press the TV/TXT button again.

To return to the normal TV mode ( )

Press the TV/TXT button repeatedly until the text disappears.

To display an index/initial page ( )

Press the button if no page number is displayed. The index page (FAST mode) or the preset initial page (LIST mode) will appear. Press again to turn off the page display.
For presetting an initial page, see page 30.

To go to the previous or next page ( )

Press the position down ▼ button to switch to the previous page. Press the position up ▲ button to switch to the next page. The pages will cyclically change from P*00 to P*99.

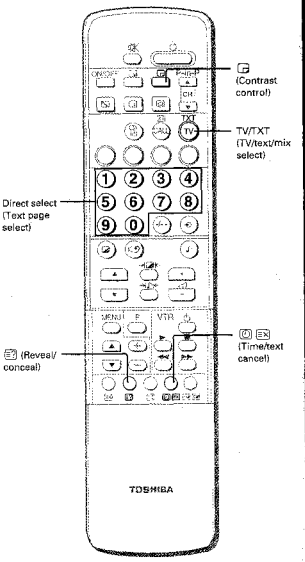
To enlarge the text display size ( )

Press the button once to enlarge the top half of the page. Press again to enlarge the bottom half of the page, and again to return to the normal size.

To hold a page of text ( )

When a page is divided into sub pages, it is convenient to hold a given page.
Press the button to hold the page. STOP will appear in the top left of the screen. Press again to release the hold mode.

To view normal text (continued)



To select a page while viewing a normal TV picture ( )

If you press the button in the text mode, a normal TV picture will be displayed. Enter the desired 3-digit page number using the direct select buttons, and the selected number will appear on the screen.
To view the selected page, press the TV/TXT button.

To display news flashes ( )

To view news flashes when they are broadcast, select the news flash page for the particular Teletext service (see the Teletext index page) and press the button. The news flashes will be displayed as they are broadcast. Press again to cancel the news flash display.

Note
The TV channel cannot be changed when the news flash is displayed. To change the channel, first press the TV/TXT button to cancel the text mode.

To reveal concealed text ( )

Some pages have sections that are concealed such as the answers to quizzes and the punchlines of jokes. To see the concealed part, press the button. Press again to conceal.

To display the time ( )

To display the accurate time on the screen while watching a normal TV picture, press the button. Press again to turn off the time display.

To adjust the contrast of the teletext picture

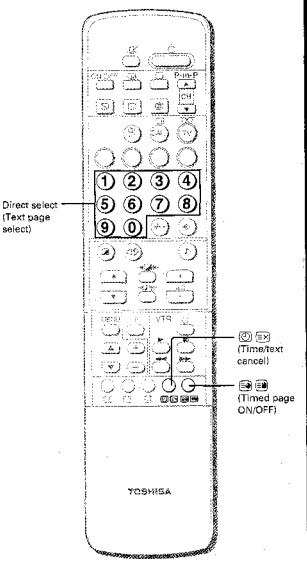
1 Press the button to call up the display on the right.

2 Press the –/+ button to adjust the level.

Viewing Normal Text/ Use of the Teletext Buttons

(continued)

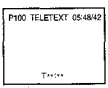
To view normal text (continued)



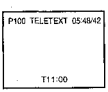
To display an alarm caption at the desired time
( )

If you want to display an alarm caption at a given time, proceed as follows:

1 Select the desired Teletext alarm page number and press the button. T**:** appears on the screen.



2 Press the direct select buttons to enter the time when you want the alarm caption displayed.
Ex. 11:00 am: Press 1, 1, 0 and 0.



The character T preceding the time digits will appear indicating the timed page is set.

3 Press the button to return to the normal TV picture.

At the preset time, the preset alarm caption page will be superimposed on a normal TV picture.

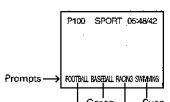
VIEWING TELETEXT (48PJ5UE, 55PJ5UE and 61PJ5UE only)

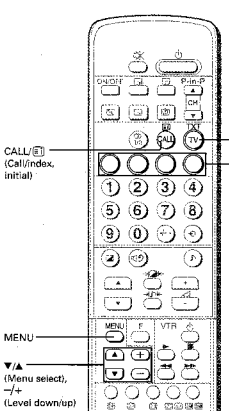
Viewing Fastext

- Fastext is a method of viewing Teletext pages by related subjects grouped by the broadcast studio. You can access any given topic shown on the screen simply by pressing the corresponding coloured text select button on the Remote Controller.

To view Fastext

When you select the FAST mode, four coloured prompts will appear at the bottom of the screen. The colours correspond to those of the text select buttons on the remote control. So, press the corresponding coloured text select button to go to the desired topic page instantly.





To select the FAST mode

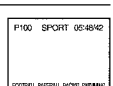
1 Select a TV station with the desired FASTEXT service.

2 Press the MENU button repeatedly to call up the FUNCTION menu on the right.

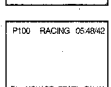
3 Press the menu select ▼/▲ buttons to move the cursor (▶) to "TEXT". Then, press the level down (–)/up (+) buttons to select "FAST" (Fastext mode).

To view Fastext

1 Press the TV/TXT button to select the text mode. Four coloured prompts will appear at the bottom of the screen.



2 Press the text select button whose colour corresponds to your desired topic. The screen will switch to the selected page.



3 Repeat step 2 to switch to the next topic you want to view.

To return to the normal TV mode

Press the TV/TXT button twice.

Press the [≡] button to display an index page. (See page 26.)

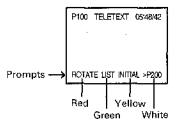
VIEWING TELETEXT (48PJ5UE, 55PJ5UE and 61PJ5UE only)

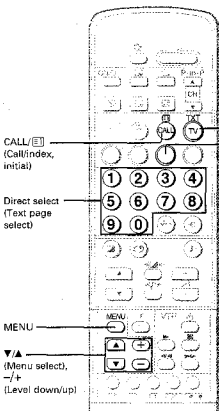
Viewing Preset Text Pages in the LIST Mode

- You can preset up to four of the most frequently used text pages and select these pages easily. In addition to the four pages, you can preset an initial page which will appear first each time you select the text mode.

To preset and view the text pages in the LIST mode

Presetting is possible only for programme numbers 1 through 9.



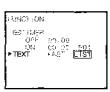


To select the LIST mode

1 Select a TV station with the *TEXT* in the desired LIST mode service.

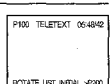
2 Press the MENU button repeatedly to call up the FUNCTION menu on the right.

3 Press the menu select ▼/▲ buttons to move the cursor (►) to "TEXT". Then, press the level down (−)/up (+) buttons to select "LIST" (LIST mode).

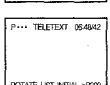


To preset an initial page

1 Press the TV/TXT button to select the text mode. The display on the right will appear.



2 Press the **yellow** text select button. P*** in red will appear on the screen.

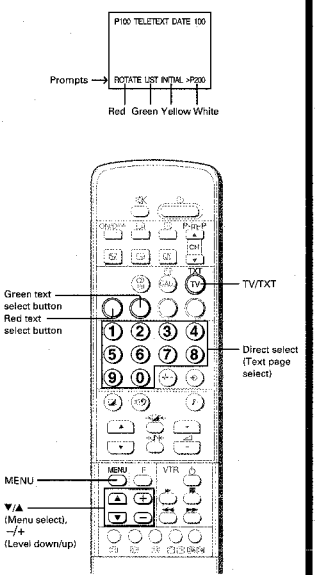


3 Press the direct select buttons to enter the 3-digit page number that you want to preset as an initial page.
Ex. page 220 : Press 2, 2 and 0.

The selected page will turn to white and will be stored in memory.

Note
For programme numbers 10 and higher, the initial page is fixed to 100, and the LIST function does not operate. Press the button to display an initial page. (See page 26.)

To preset and view the text pages in the LIST mode (continued)



To preset desired pages

1 Press the **green** text select button.

The page number at the right bottom will turn to purple.

P100 TELETEXT 05:48:42

ROTATE LIST INITIAL >P200

2 Enter the 3-digit page number you want to preset by using the direct select buttons, and press the **green** text select button. The selected page will be stored in memory.

P100 TELETEXT 05:48:42

ROTATE LIST INITIAL >P220

3 Repeat steps 1 and 2 to preset other three pages.

To view the preset pages

Press the **red** text select button.

By pressing the red text select button, the preset pages will appear cyclically.

P100 TELETEXT 05:48:42

ROTATE LIST INITIAL >P220

Note

For programme numbers 10 and higher, pages 100, 200, 300 and 400 are always selected in the LIST mode. You cannot change the presetting.

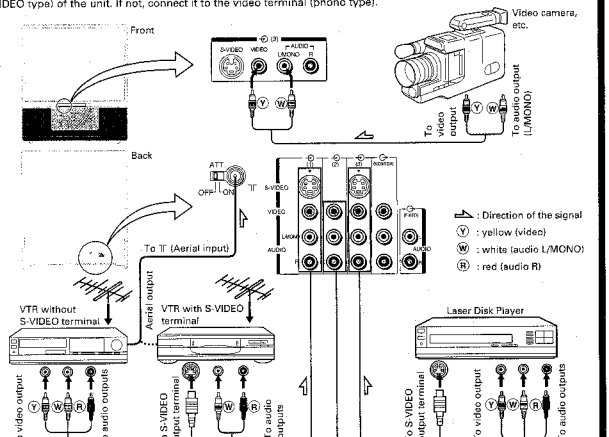
External Equipment Connections

- The following describes how to use and connect the TV with other AV equipment. Refer to the owner's manual of the equipment to be connected as well.

To connect video and audio equipment

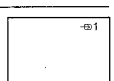
You can connect video equipments such as a VTR and video camera to this TV and enjoy the high quality picture.

If your video equipment has an S-VIDEO output aerial, connect it to the S-VIDEO input terminal (special S-VIDEO type) of the unit. If not, connect it to the video terminal (phono type).



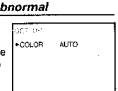
To select the input

Press the ⊖ button on the TV set or the remote control repeatedly until you see the appropriate input indicator on the screen; ⊖ 1 (⊖ (1), video 1 input), ⊖ 2 (⊖ (2), video 2 input), ⊖ 3 (⊖ (3), video 3 input) and the programme number appear in sequence.
To return to aerial input, press the ⊖ button to display a TV picture with a programme number.



If the colour of video input is abnormal

The colour system setting may be incorrect. Press the MENU button repeatedly to display the menu on the right. Confirm that "COLOR" is set to "AUTO". If not, select "AUTO" with the level down (–)/up (+) buttons.



Notes on the S-VIDEO terminal

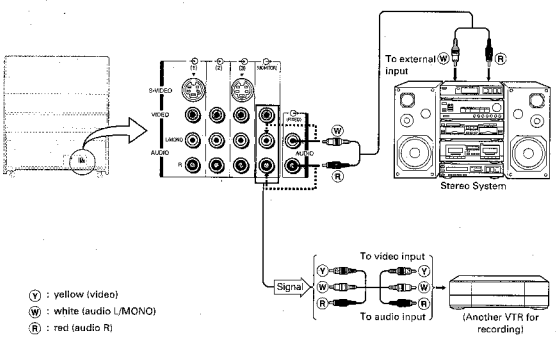
- Connect either the S-VIDEO input terminal or VIDEO input terminal, whichever terminal is used. Do not connect both of these terminals.
- As regards the input terminals of ⊖ (3), connect either the front or rear terminals but not both.

Note on the video 3 VIDEO terminal

Connect either the video 3 VIDEO terminal on the front or one on the rear.

To connect video and audio equipment (continued)

You can connect a stereo system to the MONITOR and FIXED AUDIO output terminals (phono type) on the TV to enjoy a high-quality sound from the stereo system. The MONITOR output terminals output the video and audio signals being monitored on the TV. The output audio signal level is fixed.



Ⓨ : yellow (video)
Ⓦ : white (audio L/MONO)
Ⓡ : red (audio R)

* Except for personal use, you are not allowed to use video or sound you have recorded without consent of the owner of copyright according to the Copyright Law.

Note:
The TELETEXT signal cannot be output from the MONITOR (VIDEO) output terminal. **(Teletext is featured only for 55PJ5UE/61PJ5UE.)**

A Guide to Simple Problem Solving

- Before calling service personnel, please check the following chart for a possible cause to the trouble you are experiencing.

Symptom	Check these things
Power is not turned on.	• Be sure the power cord is plugged in.
No sound	• Headphones may be plugged in.
Poor colour/tint	• May be the misadjustment for contrast, colour and tint.
Spots appear on the screen.	• May be jamming from cars, motorcycles, electric trains, high tension lines, neon signs, hair dryers, etc.
Lines appear on the screen.	• May be jamming from other TV receivers, personal computers, and TV games, as well as interference from radio station.
Double or triple images	• May be due to broadcast waves reflected from mountains or buildings. • Check if the direction of the aerial has changed because of strong wind, etc.
Snowy picture	• The aerial lead-in may be broken or disconnected. • Check if the direction of the aerial has changed.
Remote Controller does not work.	• The batteries in the Remote Controller may be exhausted. • The batteries may be improperly installed.

The following are not failures

The cabinet clicks.	• The clicking is a creaking sound produced when the cabinet expands or contracts due to changes in the temperature. This will not affect the picture or sound.
Unevenness in colour sometimes develops in part of the screen.	• If the screen is set brightly, such unevenness in colour may occur depending upon the nature of the picture. The proper colour can be restored by reducing the contrast. Consult your local dealer.

Broadcast Transmission Systems in Each Country

Area	Country	System	
		Colour	Sound
Asia M. E.	Bahrain, Kuwait, Israel, Oman, Qatar, United Arab Emirates, Yemen, etc. Indonesia, Malaysia, Singapore, Thailand, etc.	PAL	B/G
	China, etc.	PAL	D/K
	Hong Kong	PAL	I
	Iraq, Islamic Republic of Iran, Lebanon, Saudi Arabia, etc.	SECAM	B/G
	Russian Federation, etc.	SECAM	D/K
	Myanmar, etc.	NTSC	M
Oceania	Australia, New Zealand, etc.	PAL	B/G
Africa	Republic of South Africa, etc.	PAL	I
South America	Argentina, Paraguay, Uruguay, etc.	PAL	N
	Brazil	PAL	M
	Chile, Colombia, etc.	NTSC	M

Notes: • "B/G" and "D/K" will be displayed as "BG" and "DK" on the screen.
PAL, SECAM and 358NTSC are different colour signal broadcast transmission systems applicable to different countries. 443NTSC is used in special VTRs to playback NTSC recorded video tapes through PAL television equipment.
[358NTSC = NTSC 3.58 MHz, 443NTSC = NTSC 4.43 MHz]
• Refer to the Specifications table on the back cover to find the receivable television systems for this TV.

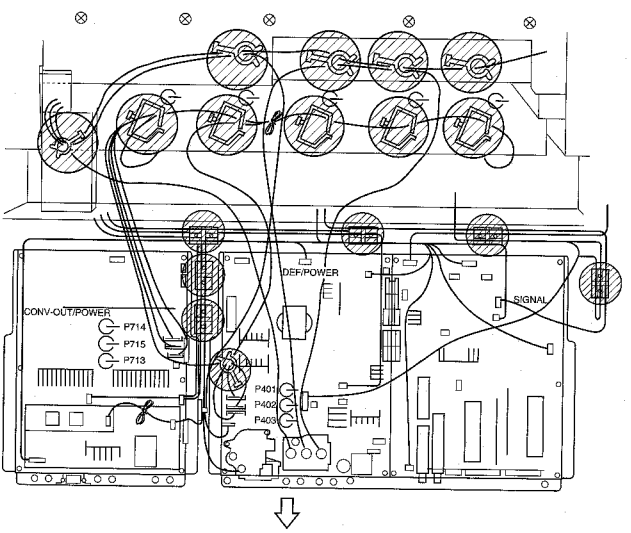
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

SETTING UP THE CHASSIS

In order to assure the performance, processed wires shall be replaced after the repair work.
Work procedures are as follows:

1. Remove the back board. (See page 58.)
2. Remove lead wires from 17 holders in ⊘ as illustrated.
3. Draw out the chassis.
4. Insert the front edge of the chassis into the groove where the back board has been inserted and make the chassis stand.
5. Put one screw on cabinet by depth of their length for fixing back board, and then, temporarily use them to hold the CONV/POWER chassis with wires tied to screws or insert the PVC band into the opening of main board frame to fix the main board chassis as shown in the figure 20. (See illustration on next page.)

After repair work finished, replace it in the opposite procedure.



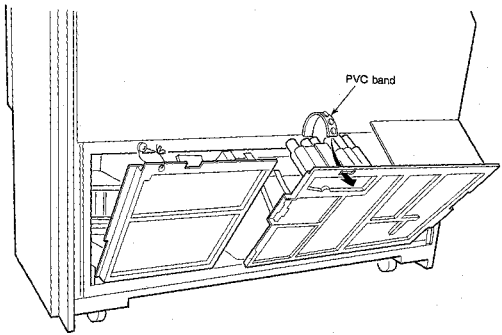
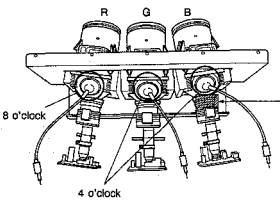


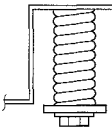
Fig. 20

CRT ASSEMBLY REPLACEMENT AND MOUNTING

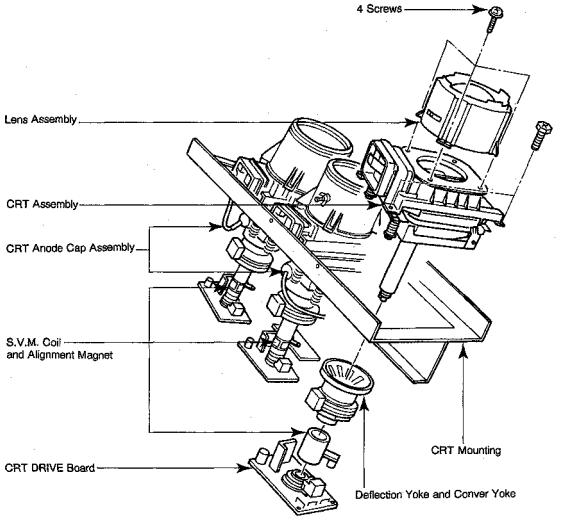
CAUTION : DO NOT LOOSEN THE HEX HEAD BOLTS WITH SPRINGS (12 PCS), BECAUSE THOSE ARE FOR SEALING OF CRT COOLANT.



Attention Serviceman



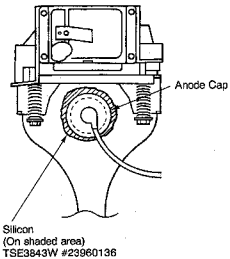
The Hex Head Bolts with Springs. (see sketch) used on CRT assembly, are "NOT" Adjustment Screws DO NOT LOOSEN-FLUID LEAKAGE WILL OCCUR.



Lens and Neck Components View

TO REMOVE CRT (Same procedure for R, G, B)

1. Remove CRT DRIVE Board, S. V. M. COIL and DEF. YOKE from CRT.
2. Remove Lens Assembly.
3. Detach CRT Anode Cap from CRT.
4. Remove CRT Assembly from CRT Mounting.



CRT REPLACEHENT (Same procedure for R, G, B)

Reverse the removal procedures except the followings.

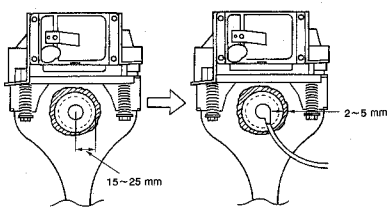
1. Anode Cable should be replaced with new one.
2. Install silicon (T461B) to the CRT, replace the Anode cable and put enough silicon again on around the Anode Cap as illustrated.

CAUTION: Align the Anode cable as illustrated on page 37. Setting of Anode Cables are illustrated on page 35.

ADJUSTING PROCEDURE IN REPLACING CRT

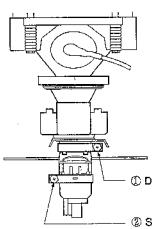
1. R.G.B. FOCUS ADJUSTMENT (page 39.)
2. PICTURE TILT ADJUSTMENT (page 40.)
3. USER CONVERGENCE CENTER CHECK (page 14.)
4. CENTERING ADJUSTMENT (page 40.)
5. CONVERGENCE ADJUSTMENT (page 42.)
6. WHITE BALANCE ADJUSTMENT (page 54.)

Adjustments are complete.

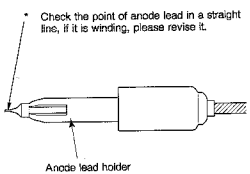


SERVICING PRECAUTION

1. Do not use a magnetized screw driver for screws of Deflection Yoke and Velocity Modulation Coil to avoid magnetization of electron gun.
2. Above caution should be applicable to three CRT's (R, G, B).



3. Magnetization of electron gun will degrade basic function and result in unbalance of right and left shift of user static convergence included in Set Menu, and result in no variable quantity.

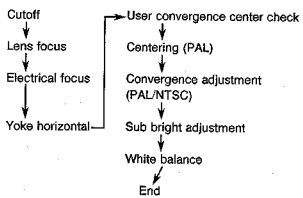


Remove the anode lead holder from old one and attach the holder again to new anode lead when replacing the anode cap assembly (CRT) or anode lead assembly (F.B.T.).

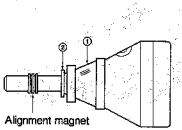
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

PICTURE TUBE COMPONENTS ADJUSTMENT

ADJUSTING PROCEDURE IN REPLACING CRT



DESCRIPTION OF NECK COMPONENTS



① Deflection yoke and convergence yoke
The position on the neck is required most front (CRT funnel side) and the screw is fastened after rotating yoke adjusting picture tilt.

② Centering magnet
After adjusting picture tilt, picture position is finally fixed by this magnet.
In order to get maximum margin of user convergence control for center of screen, this magnet have to be used for center convergence adjustment.

PREPARATION
Operate the receiver for at least 5 minutes.

R, G, B FOCUS ADJUSTMENT

1. Select the adjustment mode. (See page 51.)
2. Press "→/▶-" button to display the built-in cross-hatch.
3. Press "◀" and "♪" buttons to make the picture a single Red color.
   ◀ button ..... to erase Red color
   ◀ button ..... to erase Green color
   ♪ button ..... to erase Blue color
4. Loosen the fasten screw and adjust Red lense focus to best focusing point of picture center. Then fasten the screw. (See Fig. a.)

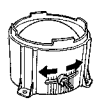
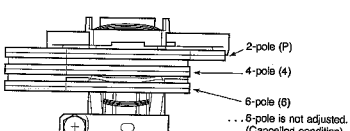


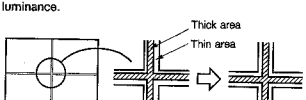
Fig. a

5. Adjust FOCUS VR "R" of FOCUS PAC to find best focusing point of picture center.
6. Repeat steps 3 to 5 for Green and Blue colors.

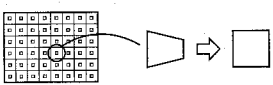
ALIGNMENT MAGNET ADJUSTMENT (This Item will be made design modification (delete) without notice)



1. Set the 2-pole, 4-pole and 6-pole magnets to cancelled condition.
   (To realize the cancelled position, set marking letters on tabs to match front to back.)
2. Receive test signal of white cross-bar.
3. Rotate Focus VR to just a little left from optimum focusing.
4. Adjust 2-pole magnet so that thick area of luminance is located to center of thin area of luminance.



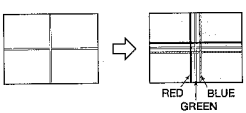
5. Rotate Focus VR counterclockwise to the just focusing.
6. Fix 2-pole magnet with adhesive.
7. Change test pattern to white cross-dot.
8. Rotate Focus VR to just a little right from optimum focusing.
9. Adjust 4-pole magnet for the square dot.



10. Rotate Focus VR counterclockwise for the just focusing.
11. Fix 4-pole magnet with adhesive.
12. Perform steps 1 to 11 for RED, GREEN and BLUE.

Note:

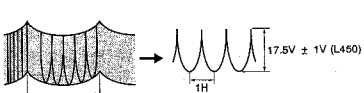
1. Before adjustment, displace previously red and blue of convergence by Convergence Menu in Set Up Menu for convenience.



2. This adjustment may be omitted due to design modification (Deletion of alignment magnet).
3. 6-pole magnet is no adjustment. Set it to cancelled condition.

DYNAMIC FOCUS PARABOLA ADJUSTMENT

1. Connect oscilloscope (10:1 probe) to terminal #2 of T400 and ground. (See Fig. C)
2. Turn on the TV set and adjust L450 (POWER DEF BOARD) for the peak-to-peak value of parabola wave as shown below.

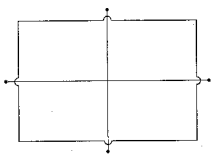


TILT ADJUSTMENT

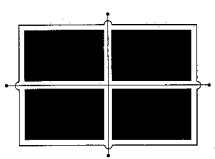
Rotate R, G, B deflection yoke so that picture becomes horizon, then fasten screw.

CENTERING ADJUSTMENT

1. Stretch a thread between two center slots of screen edge (top and bottom, left and right).



2. Select the adjustment mode. (See page 50.)
3. Press TV/VIDEO button on the Remote Control to display the white cross-bar.



4. Adjust G centering magnet so that the cross-bar pattern center comes to screen center.
5. Perform HEIGHT adjustment . (See page 54.)
6. Perform VERT. LINEARITY adjustment. (See page 35.)
7. Perform WIDTH adjustment. (See page 54.)
8. Check whole quality of green line.
9. Adjust R, B centering magnet so that the cross-bar pattern center comes to screen center.

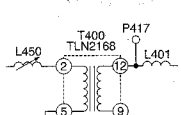
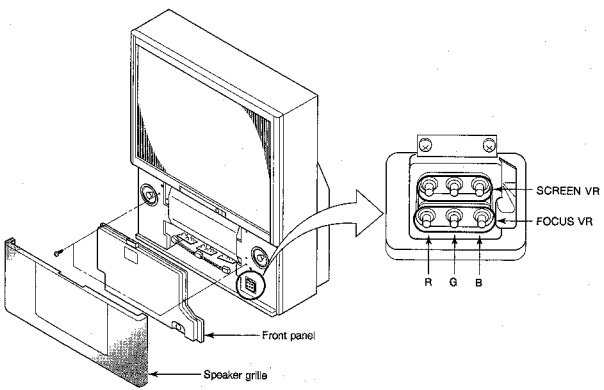


Fig. c

LOCATION OF SCREEN AND FOCUS VR'S

To remove the Speaker grille and Front panel.



CONVERGENCE ADJUSTMENT

3. PICTURE ADJUSTMENT

The adjustment are done on two screens; 50 Hz mode (PAL) and 60 Hz mode (NTSC). To synchronize correction wave to each frequency, receive the suitable signal.

3-1. Change of Memory (E^2PROM)

Memory of Q713 E^2PROM is nonvolatile, and adjusted data is stored. Since data in RAM of Q701 is eliminated with power OFF, the RAM is set by soft command of microcomputer QA01 at every power ON. The adjusted data which is obtained from screen-watching is once stored in RAM inside QA01. The whole data in RAM which is corrected on each adjusting point and is changed, is saved into E^2PROM (Q713) as a fixed data. The data capacity per one screen requires 8k for 50 Hz mode (PAL), and 4k for 60 Hz mode (NTSC).

3-2. Service Mode

3-2-1. Outline

Service mode is controlled by software of microcomputer QA01, and is one of function of set.

This mode is designed so that ordinary user cannot use this, and special operation is required to use this.

Data change is done by direct shift (cursor display) of adjusting points; 50 Hz mode (PAL) 8 × 8/1 color and 60 Hz mode (NTSC) 8 × 8/1 color.

3-2-2. To Enter and to Exit

Press MUTE key on remote hand unit twice and keep pressing the key, press MENU key of set console.

Then service data will be displayed on top left of screen. Under the condition, press " ↵ " key on remote hand unit, and the screen shows crosshatch picture (Later, the first picture). Press again " ↵ " key, and the screen changes to crosshatch + data display (Later, second picture). This time changed data are automatically saved

Further, press " ↵ " key on remote, the screen returns to original picture.

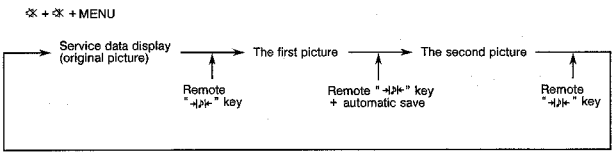
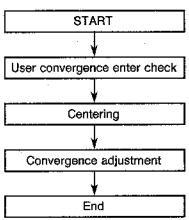

✲ + ✲ + MENU
Service data display (original picture)
The first picture
The second picture
Remote " ↵ " key
Remote " ↵ " key + automatic save
Remote " ↵ " key

Fig. 14-2

Adjusting Procedure in Replacing Convergence Unit/Main Def



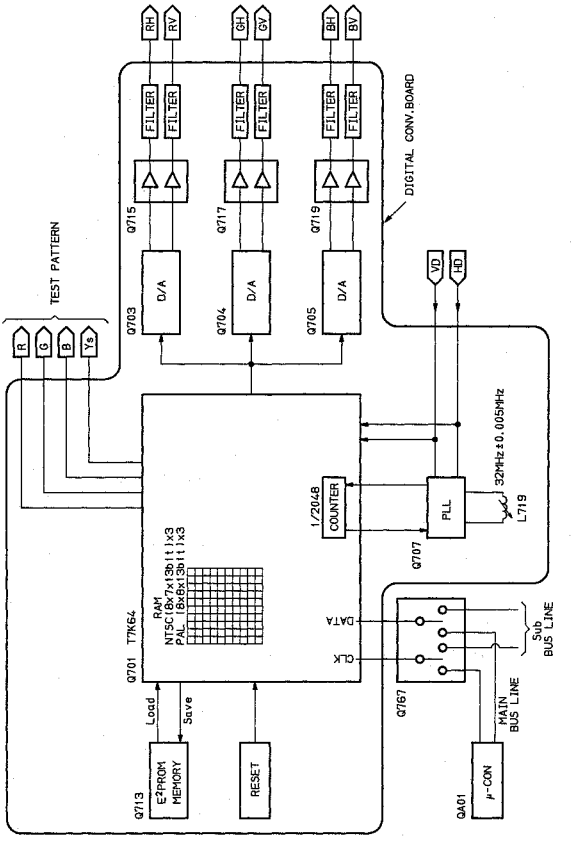


Fig. 14-1 Block diagram

3-2-3. Picture

a) 50 Hz mode (PAL) . . . . Correcting point: Horizontal 8 × Vertical 8 (Arrow marks denote correcting point)

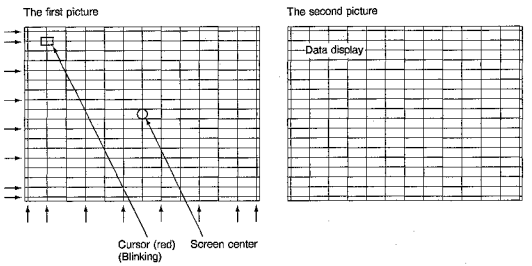


Fig. 14-4

The first picture

Crosshatch pattern. Pattern colors are three color display. Cursor is blinking in red. When changed, condition is last memory state.

Cursor is . . . Data change mode in lighting,
Cursor shifting mode in blinking.

Display color shows the color that data change is possible.

The second picture

When entering from the first picture to the second picture, correcting wave of convergence is muted for one second.
During this period, the changed data is transferred from RAM Q701 to E²PROM Q713, and saved.

The second picture is indicated with data on top left of the first picture, therefore, convergence cannot be adjusted by this picture.

Caution:

- Receive suitable signal for adjustment. Centering of green picture can be done in 50 Hz mode (PAL).
- Centering of 60 Hz mode (NTSC) can be adjusted by convergence adjustment. Besides, decide the center by cross pattern of static convergence in menu, and adjust convergence from center to circumference.

b) 60 Hz mode (NTSC) . . . . Correcting point: Horizontal 8 × Vertical 7 (Arrow marks denote correcting point)

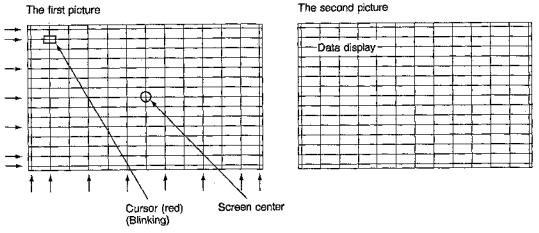


Fig. 14-3

The first picture

Crosshatch pattern. Pattern colors are three color display. Cursor is blinking in red. When changed, condition is last memory state.

Cursor is . . . Data change mode in lighting,
Cursor shifting mode in blinking.

Display color shows the color that data change is possible.

The second picture

When entering from the first picture to the second picture, correcting wave of convergence is muted for one second.

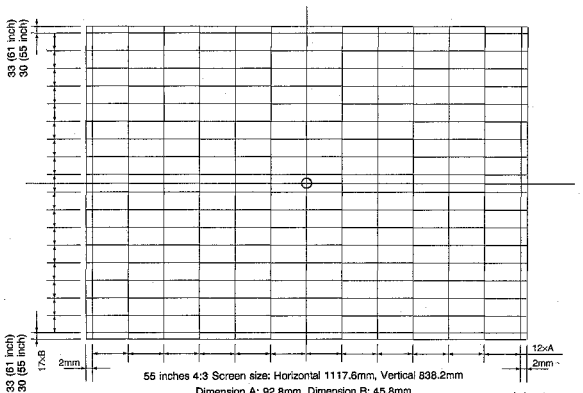
During this period, the changed data is transferred from RAM Q701 to E²PROM Q713, and saved.
The second picture is indicated with data on top left of the first picture, therefore, convergence cannot be adjusted by this picture.

Caution:

- Receive suitable signal for adjustment. Decide the center by cross pattern of static convergence in menu, and adjust convergence from center to circumference.

4. ADJUSTING PICTURE DIMENSION (GREEN PICTURE)

1. 50 Hz mode (PAL)

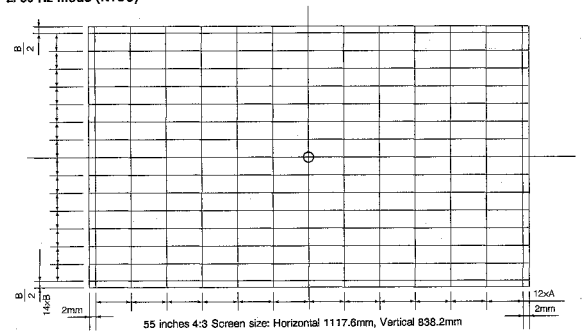


55 inches 4:3 Screen size: Horizontal 1117.6mm, Vertical 838.2mm
Dimension A: 92.8mm, Dimension B: 45.8mm

○ mark: center

61 inches 4:3 Screen size: Horizontal 1239.5mm, Vertical 929.6mm
Dimension A: 103.0mm, Dimension B: 50.8mm

2. 60 Hz mode (NTSC)

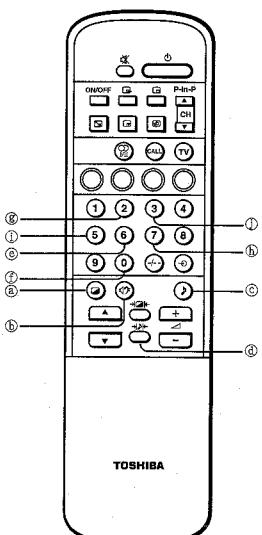


55 inches 4:3 Screen size: Horizontal 1117.6mm, Vertical 838.2mm
Dimension A: 92.8mm, Dimension B: 55.9mm

61 inches 4:3 Screen size: Horizontal 1239.5mm, Vertical 929.6mm
Dimension A: 103.0mm, Dimension B: 62.0mm

Fig. 14-5

5. KEY FUNCTION OF REMOTE CONTROL UNIT



- ⓐ key .. Red test pattern ON/OFF
- ⓑ key .. Green test pattern ON/OFF
- ⓒ ♪ key ..... Blue test pattern ON/OFF
- ⓓ key .. Mode picture change-over
- ⓔ 6 key ..... Cursor shift / data change mode change-over
- ⓕ 0 key ..... Cursor down / adjusting point down
- ⓖ 2 key ..... Cursor up / adjusting point up
- ⓗ 7 key ..... Cursor right / adjusting point right
- ⓘ 5 key ..... Cursor left / adjusting point left
- ⓙ 3 key ..... Cursor color change

Fig. 14-6

CIRCUIT ADJUSTMENT

DEF/HV BOARD CHECK

HIGH VOLTAGE CHECK

CAUTION: There is no HIGH VOLTAGE ADJUSTMENT on this chassis. Checking should be done following the steps below.

1. Connect an accurate high voltage meter to the anode of the picture tube.
2. Turn on the receiver. Set the BRIGHTNESS and CONTRAST to minimum (zero beam current).
3. High voltage must be below 32.0 kV.
4. Vary the BRIGHTNESS to both extremes to be sure the high voltage does not exceed the limit under any conditions.

CAUTION:
When the following parts fail, check the High Voltage after replacing.

Location No.	Name	Type
T461	Flyback Trans.	TFB3078AD
D489	Zener Diode	MTZJ3.6B or UZ3.6BSB
Q480	Transistor	2SC2023
Q483	IC	TA7555S
R435	Resistor	33k ohm, ±5%
R489	Resistor	3.3k ohm, ±5%
R490	Resistor	3.3k ohm, ±5%
R450	VR	1k ohm
C440	Capacitor	1000pF, ±3%
C443	Capacitor	6800pF, ±3%
C444	Capacitor	5100pF, ±3%

ANODE VOLTAGE MEASURING METHOD

CAUTION: Take extra precaution when measuring this high voltage. High voltages are also present in surrounding circuit boards (CRT DRIVE assembly, DEFLECTION assembly, and POWER SUPPLY assembly).

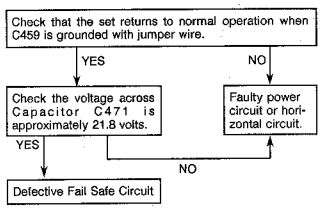
1. Disconnect the FBT anode cable as outlined below. Measure high voltage at the point where the cable enters the FBT.
2. Holding the rubber cover firmly, turn it counterclockwise and check that the lock has been disengaged. (See Fig. b.)
3. Determine the extent of the rubber cover before disconnecting the cable.
4. Pull straight up the anode cable to disconnect.
5. When reconnecting the cable, proceed in the reverse order.
   After reconnecting, tug on the cable to check that it is secure.

FS CIRCUIT CHECK

The Fail Safe (FS) circuit check is indispensable for the final check in servicing. Checking should be done following the steps below.

1. Turn the receiver on.
2. Temporarily short TP- Ⓡ and TP- Ⓚ on the DEF/POWER Board with a jumper wire.
   Raster and sound will disappear.
3. The receiver must remain in this state even after removing the jumper wire. This is the evidence that the FS circuit is functioning properly.
4. To obtain a picture again, temporarily turn the receiver off and allow the FS circuit more than 5 seconds to reset. Then turn the receiver on to produce a normal picture.

Troubleshooting Guide for Fail Safe Circuit


Check that the set returns to normal operation when C459 is grounded with jumper wire.
YES
NO
Check the voltage across Capacitor C471 is approximately 21.8 volts.
Faulty power circuit or horizontal circuit.
YES
NO
Defective Fail Safe Circuit

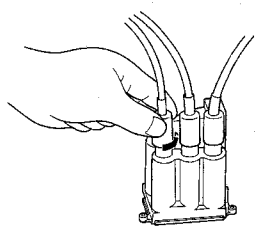


Fig. b

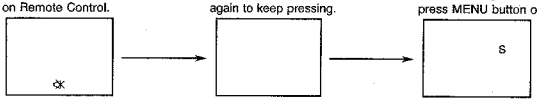
SERVICE MODE GENERAL INSTRUCTIONS

1. ENTERING TO SERVICE MODE

1) Press MUTE button once on Remote Control.

2) Press MUTE button again to keep pressing.

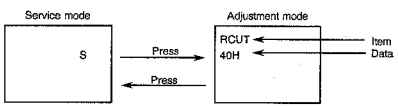
3) Keep pressing the MUTE button, press MENU button on TV set.



(Service mode display)

2. DISPLAYING THE ADJUSTMENT MENU

1) Press MENU button on TV.



3. SELECTING THE ADJUSTING ITEMS

1) Every pressing of CHANNEL ▲ button changes the adjustment items in the following order. (▼ button for reverse order.)

Item	Name of adjustment	Data
ROUT	R CUTOFF	40H
GOUT	G CUTOFF	40H
BOUT	B CUTOFF	40H
GDRV	G DRIVE	40H
BDRV	B DRIVE	40H
CNTX	SUB CONTRAST MAX	7FH
BRTC	SUB BRIGHT CEN	6FH
COLC	SUB COLOR CEN NTSC	35H
TNTC	SUB TINT CEN	4AH
COLP	SUB COLOR CEN PAL	35H
COLS	SUB COLOR CEN SECAM	35H
SCOL	SUB COLOR	10H
SCNT	SUB CONTRAST	09H
RGBB	RGB BRIGHTNESS	20H
VOLS	VOL SCART	75H
FVOL	FM VOL PRE SCALE	15H
NVOL	NICAM VOL SCALE	3AH
NICL	NICAM THRESHOLD LEVEL	03H
NIDH	NICAM THRESHOLD LEVEL	0AH
IDL	IDR THRESHOLD LEVEL	04H
IDH	IDR THRESHOLD LEVEL	0AH
EVOL	EXT PRE VOLUME	11H
EMX	NICAM ON LEVEL	FCH
EMN	NICAM OFF LEVEL	64H
FMA	FM ATTENUATER LEVEL	00H
STS	STEREO SEPARATION	00H
HPOS	50Hz H-POSITION	0AH
VPOS	50Hz V-POSITIOIN	04H
HIT	50Hz H-WIDTH	58H
HPS	60Hz H-POSITION	0DH
HITS	60Hz H-WIDTH	55H
VLIN	60Hz V-LINEARITY	12H
VSC	60Hz V-S CORRECTION	08H
VPS	60Hz V-SHIFT	19H
VCP	60Hz V-COMPENSATION	02H
WID	60Hz PICTURE WIDTH	19H
TRAP	60Hz TRAPEZIUM	10H
HCP	60Hz H-COMPENSATION	01H
VFC	50Hz V-F CORRECTION	0FH
PHP6		02H
STRH		85H
NVLI	60Hz V-LINEARITY	12H
NVSC	60Hz V-S CORRECTION	08H
NVPS	60Hz V-SHIFT	13H
NVCP	60Hz V-COMPENSATION	02H
NWID	60Hz PICTURE WIDE	18H
NTRA	60Hz TRAPEZIUM	10H
NHCP	60Hz H-COMPENSATION	01H
NVFC	60Hz V-F CORRECTION	0FH
NSTR		85H
		**H
BELL	SECAM BELL	70H
SRY	SECAM R-Y	08H
SBY	SECAM B-Y	08H
NVPO		01H
PHP5		08H
PBEL	PIP BELL	71H
PSRY	PIP SRY	06H
PSBY	PIP SBY	08H

4. ADJUSTING THE DATA

1) Pressing of VOLUME ▲ or ▼ button will change the value of data in the range from 00H to FFH. The variable range depends on the adjusting item.

5. EXIT FROM SERVICE MODE

1) Press POWER button to turn off the TV once.

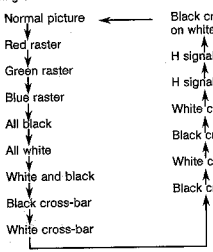
6. OTHER SERVICE FUNCTIONS

The following key entry during display of adjustment menu provides special functions.

1) TV/VIDEO button (on TV) : VIDEO signal ON/OFF
2) TV/VIDEO button (on Remote) : Test signal selection
3) 8 button : Test sound signal ON/OFF (1 kHz)
4) 9 button : Self diagnostic display ON/OFF
5) CALL button + CHANNEL ▲ button (on TV) : Initialization of the MEMORY (QA02)
   CAUTION: Never try to perform initialization unless you have changed the memory IC.
6) CALL button + CHANNEL ▼ button (on TV) : Reset the count of operating protect circuit to "00"
7) CALL button + VOLUME ▼ button (on TV) : Stop of BUS CONTROL operation

TEST SIGNAL SELECTION

1) Every pressing of TV/VIDEO button on the Remote Control changes the built-in test patterns on screen in the following order.

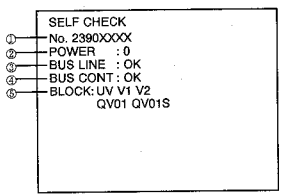


Note: If the video cable is connected to the VIDEO INPUT jack, the built-in pattern signals are not displayed.

Signals	Picture
• Red raster • Green raster • Blue raster • All Black • All White	
• Black & White	
• Black cross-bar • White cross-bar • Black cross-bar on green raster	
• Black cross-hatch • White cross-hatch	
• Black cross-dot • White cross-dot	
• H signal (white) • H signal (black)	

SELF DIAGNOSTIC FUNCTION

1) Press "9" button on Remote Control during display of adjustment menu.
   The diagnosis will begin to check if interface among IC's are executed properly.
2) During diagnosis, the following displays are shown.



① Part number of microprocessor (QA01)
② Operation number of protection circuit (current limiter)
③ BUS line check
- "OK" ..... Normal
- "SCL-GND" ..... SCL-GND short circuit
- "SDA-GND" .... SDA-GND short circuit
- "SCL-SDA" ..... SCL-SDA short circuit

④ BUS line ACK (acknowledge) check
- "OK" ..... Normal
- Display of Location Number (Ex. QA02) ... NG
  (Failure place to be displayed)
  QA02 NG, Q501NG, H001NG, QG01NG, QV01NG, Q302NG, QZ01NG, H002NG, QQ01NG, HY01NG, QY03NG, Qr04NG, QY05NG, Q701NG QT01NG
  IN PIP UNIT
- Note: The indication of failure place is only one place though failure places are plural. When repair of a failure place finishes, the next failure place is indicated. (The order of priority of indication is left side.)

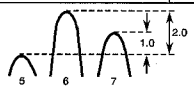
⑤ Sync. signal check
- Green display .. Normal
- Cyan display ... No check
- Red display .... NG

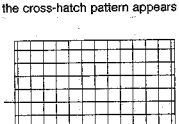
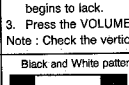
SERVICE MODE ADJUSTMENT

ADJUSTMENT OF VIDEO-CHROMA SYSTEM

Symbol	Name	Setting	Input signal	Measurement point	Instrument	Adjustment procedure	Adjustment standard
BELL	BELL FILTER		SECAM COLOR BAR	QQ01 #2 (TPM01)	Synchroscope	1. Adjust the amplitude of color bar to the flat level with [BELL].	100±10%
SRY	SECAM R-Y BLACK LEVEL	DYNAMIC MODE	SECAM COLOR BAR	Q501 #55 (TP501)	Synchroscope	1. Adjust the black & white signal level to the H.BLK level with [SRY].	0±40mV
SBY	SECAM B-Y BLACK LEVEL	DYNAMIC MODE	SECAM COLOR BAR	Q501 #55 (TP501)	Synchroscope	1. Adjust the black & white signal level to the H.BLK level with [SBY].	0±40mV
SCNT	SUB Contrast	CONT : MAX Bright : Cent Color : Cent Tint : Cent Y-MUTE: ON	BLACK/ WHITE signal	IC501 #55 (Monitor output) TP501	Synchroscope	1. Select the slave address [SCNT], and Y signal will be outputted from the monitor output. 2. Adjust the amplitude of the white level according to the Y signal and the pedestal level.	2.5V(p-p)± 0.2V(p-p)
BRTC	SUB BRIGHT	CONT : MAX Bright : Cent Color : MIN	BLACK/ WHITE signal	Picture adjustment	Visual check	SUB BRIGHT (BRTC) 1. Set user control to reset position. 2. Call up the adjustment mode display, then select the item BRTC. 3. Press the ⊕ button on Remote, and select the black and white pattern. 4. Adjust the data of item BRTC and set it just before the dark area lights.	
COLS	COLOR Control Center	CONT : Cent Bright : Cent Color : Cent Tint : Cent Y-MUTE: ON	SECAM color bar signal	IC501 #55 (Monitor output)	Synchroscope	1. Select the slave address [COLS], and B-Y signal will be outputted from the monitor output. 2. Adjust the amplitude of the color bar output.	3.5V(p-p)± 0.2V(p-p)
SCOL	SUB COLOR NTSC	CONT : Cent Bright : Cent Color : Cent Tint : Cent Y-MUTE: ON	Color bar signal	IC501 #55 (Monitor output)	Synchroscope	1. This item must be adjusted after the slave addresses 30 [TNTC] and [COLS] have been adjusted. 2. Select the slave address 28 [SCN], and B-Y signal will be outputted from the monitor output. 3. Adjust the amplitude of the rainbow color bar output.	3.5V(p-p)± 0.2V(p-p)
COLP	SUB COLOR PAL	CONT : Cent Bright : Cent Color : Cent Tint : Cent Y-MUTE: ON	PHILIPS Pattern	IC501 #55 (Monitor output) TP501	Synchroscope	1. By selecting slave address [COLP], B-Y signal is provided from monitor output. 2. Adjust amplitude of color bar part.	3.5V(p-p)± 0.2V(p-p)
TNTC	TINT Control Center	CONT : MAX Bright : Cent Color : Cent Tint : Cent	Sub bright signal	IC501 #55 (Monitor output) TP501	Synchroscope	1. Select the slave address [TNTC], and B-Y signal will be outputted from the monitor output. 2. Adjust the amplitude of the rainbow color bar output. (See figure below.)	−5°±5° (Refer to the conversion table.)
RGBB	PIP BLACK LEVEL		Sub bright signal	Picture adjustment	Visual check	1. Adjust the number of black collapse of PIP sub bright signal.	5±1.5

Status of TCC 6.25

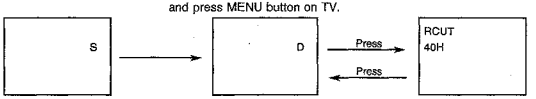


ITEM	ADJUSTMENT PROCEDURE
INITIALIZATION OF QA02 (MEMORY)	After replacing QA02, the following initialization is required. 1. Call up the adjustment mode display following the steps 1 and 2 on page 20. 2. Press the RECALL button on Remote and CHANNEL ▲ button on TV simultaneously. The initialization of QA02 has been completed. 3. Check the picture carefully. If necessary, adjust any adjustment item. Perform "PROGRAMMING CHANNEL MEMORY" on page 9.
WIDTH (WID)	1. Call up the adjustment mode display, then select the item **WID**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the left and right edges of raster begins to lack. 3. Press the VOLUME ▲ or ▼ button to advance the data by 7 steps. Note : Check the horizontal picture position is correct.
VERTICAL LINEARITY (VLIN)	1. Call up the adjustment mode display, then select the item **VLIN**. 2. Press the TV/VIDEO button on Remote until the cross-hatch pattern appears on the screen. 3. Press the VOLUME ▲ or ▼ button to obtain the picture of the best linearity 
HEIGHT (HIT)	1. Call up the adjustment mode display, then select the item **HIT**. 2. Press the VOLUME ▲ or ▼ button to get the picture so the top of raster begins to lack. 3. Press the VOLUME ▲ button to advance the data by 9 steps. Note : Check the vertical picture position is correct.
48PJ5UH WHITE BALANCE (RCUT) (GCUT) (BCUT) (RDRV) (BDRV)	Black and White pattern  Bright area Adjust "RDRV" or "BDRV" to be white. Dark area Fine adjust "RCUT", "GCUT" or "BCUT" to be black. 1. Set user control to reset position. (CONTRAST → Max BRIGHTNESS, COLOR, TINT → Center.) 2. Call up the adjustment mode display, then select the item RCUT. 3. Adjust the data of items **RCUT**, **GCUT**, and **BCUT** to "40H". 4. Press the ⊕ button on PJTV. (Y-MUTE : ON) 5. Gradually rotate R, G and B screen volume of FOCUS PAC clockwise or counterclockwise until the raster appears slightly on the CRT through the each lens, and leave them. (Lookin to the lens in order to check the raster.) 6. Press the ⊕ button on PJTV. (Return to Normal Picture) 7. Press the ⊕ button on Remote, and select the Black and White pattern. 8. Adjust the data of items **RCUT**, **GCUT** and **BCUT** for proper white-balanced picture in low light area. 9. Adjust the data of items **RDRV** and **BDRV** for proper white-balanced picture in high light area. 10. Check the white balance in both low and high light areas. If necessary, perform again steps from 8 to 9.

DESIGN MODE ADJUSTMENTS

1. ENTERING TO DESIGN MODE

1) Select the Service mode. 2) Keep pressing CALL button on Remote and press MENU button on TV. 3) Press MENU button on TV.



When QA02 is initialized, "OPT0" and "OPT1" of DESIGN MODE ADJUSTMENTS are set to the data of 55/61PJ5UC/H which is a representative model of this chassis family. Therefore, because ON-SCREEN specification remains in the state of 55/61PJ5UC/H, 55/61PJ5UE is required to reset the data of "OPT0".

2. SELECTING THE ADJUSTING ITEMS

Every pressing of CHANNEL ▼ button changes the adjustment items in the following order.
(▲ button for reverse order.)

Item	Name of adjustment	Data			Remarks
		Preset Data	55/61PJ5UC/H	55/61PJ5UE	
RCUT					
OPT1	OPTION 1	00	←	00	
OPT0	OPTION 0	02	←	00	
OSD					
RCUT					

3. ADJUSTING THE DATA

Pressing of VOLUME ▲ or ▼ button will change the value of data.

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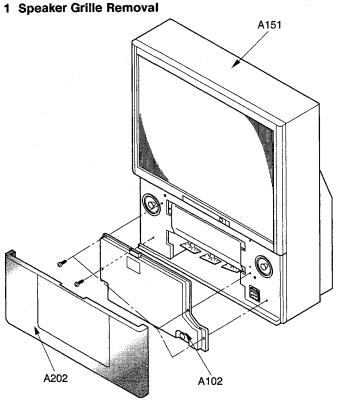
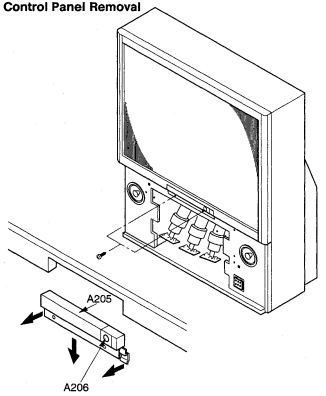
MECHANICAL DISASSEMBLY

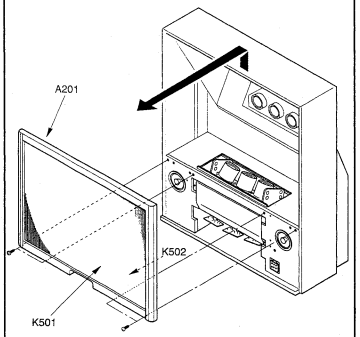
1 Speaker Grille Removal



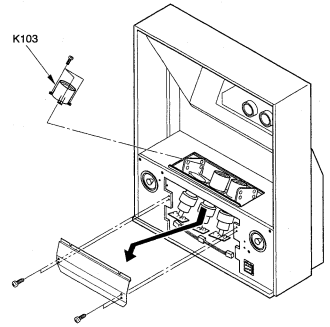
2 Control Panel Removal



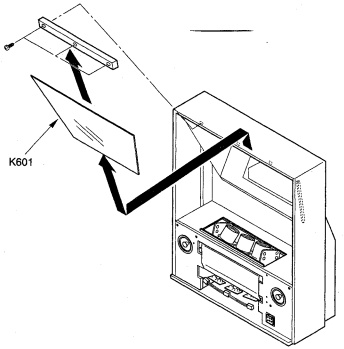
3 Front Mask Removal



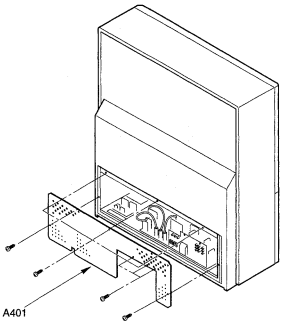
4 Shield Plate, Lens Removal



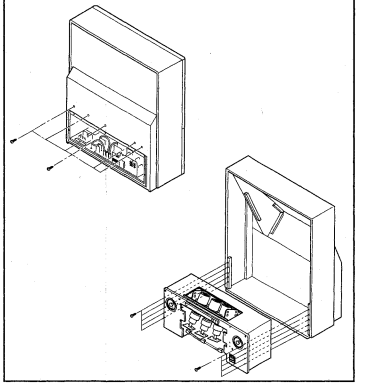
5 Mirror Removal



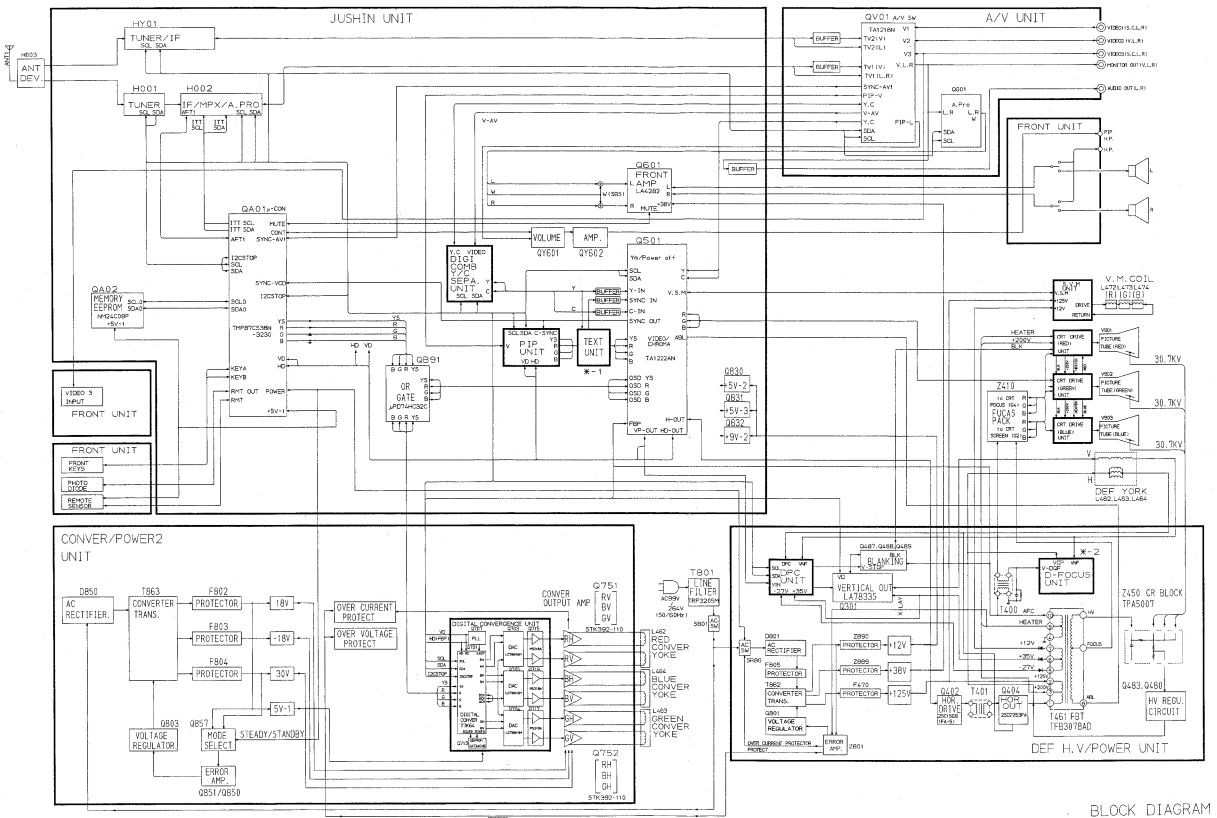
6 Back Board Removal



7 Light Box Removal



CHASSIS BLOCK DIAGRAM

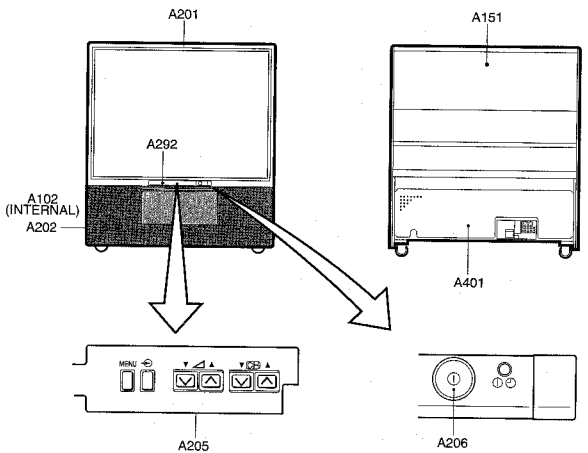


*1 — PJ5UE
NO — PJ5UC,UH

*5 — VERTICAL DYNAMIC FOCUS — 55PJ5UH/UC/UE, 61PJ5UH/UC/UE

BLOCK DIAGRAM
MODEL
55PJ5UH/UC/UE
61PJ5UH/UC/UE

CABINET REPLACEMENT PARTS LIST



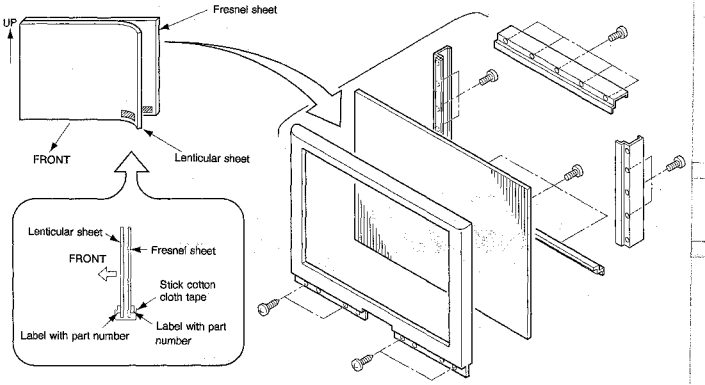
Location No.	Part No.	Description
A102	23421707	Front Cover
A122	23845511	Band, Safety
A151	23465467	Cabinet, Wood
A152	23935444	Pad, Bottom
A163	23805157	Handle
A201	23519303	Bezel
A202	23519499	Speaker Grille (55PJ5UE)
A202	23519449	Speaker Grille (55PJ5UH)
A202	23519480	Speaker Grille (55PJ5UC)
A202	23519502	Speaker Grille (61PJ5UE)
A202	23519473	Speaker Grille (61PJ5UH)
A202	23519496	Speaker Grille (61PJ5UC)
A205	23885172	Control Panel
A206	23444834	Knob, POWER
A207	23836498	Spring, Coil
A292	23421722	Door
A401	23822929	Back Board

Location No.	Part No.	Description
A505	72471068	Screw, BIDT2 4x12BZ
A517	23035010	Screw, PBI4x16
A519	72471068	Screw, BIDT2 4x12BZ
K103	23430111	Delta, 77-A/B Assembly (55PJ5UE/H/C)
K103	23430160	Delta, 79-A/B Assembly (61PJ5UE/H/C)
K501	23837437	Lenti Sheet, SCREEN55KE-L (55PJ5UE/H/C)
K501	23837413	Lenti Sheet, SCREEN61K-L (61PJ5UE/H/C)
K502	23837438	Fresnel Sheet, SCREEN55KE-F (55PJ5UE/H/C)
K502	23837414	Fresnel Sheet, SCREEN61K-F (61PJ5UE/H/C)
K601	23430128	MIRROR55(C) (55PJ5UE/H/C)
K601	23430221	MIRROR61(E) (61PJ5UE/H/C)

For location of parts in TV set, see pages 57 and 58 as well.

ASSEMBLING OF FRONT SCREEN

MOUNTING OF FRONT SCREEN



CLEANING OF LENS AND MIRROR

CAUTION : Do not hold the optical system parts (lens and mirror) with bare hand to avoid finger-prints on the surface of those parts.

HOW TO CLEAN LENS AND MIRROR

1. Be sure to remove sand dust with an air brush, etc.
2. When it is stained slightly, breathe upon it and wipe away with the specified cleaning cloth.
   For other stains than the above, wipe the stains away with the specified cloth into which a cleaning liquid has been soaked.

Cleaning liquid ..... **LENS LUSTER** (Manufactured by Edmund Scientific Co.), etc.

HOW TO CLEAN SCREEN

When cleaning the screen, use a soft cloth so as not to damage the screen.

1. Wipe the stain away with a diluted neutral detergent soaked cloth.
2. Wipe the detergent away with a water soaked cloth.
3. Wipe the screen with a dry cloth to remove moisture on the screen.

Note : Absolutely do not use alcohol, benzine, thinner, etc. for cleaning in order not to wipe away the black print on the surface.

CHASSIS REPLACEMENT PARTS LIST

WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTION", "SAFETY PRECAUTION" AND "PRODUCT SAFETY NOTICE" ON PAGE 2 OF THIS MANUAL.

CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

NOTICE:
- *The part number must be used when ordering parts, in order to assist in processing, be sure to include the Model number and Description.*
- *The PC board assembly with * mark is no longer available after the end of the production.*

ABBREVIATIONS:

Capacitors.....	CD : Ceramic Disk	PF : Plastic Film		EL : Electrolytic	
Resistors.....	CF : Carbon Film	CC : Carbon Composition		MF : Metal Film	
	OMF : Oxide Metal Film	VR : Variable Resistor		FR : Fusible Resistor	

(All CD and PF capacitors are ±5%, 50V and all resistors, ±5%, 1/6W unless otherwise noted.)

Models : 55PJ5UE, 55PJ5UH, 55PJ5UC
61PJ5UE, 61PJ5UH, 61PJ5UC

Location No.	Part No.	Description
CAPACITORS		
C101	24796479	EL, 4.7μF, ±20%, 35V
C102	24763221	EL, 220μF, ±20%, 16V
C103	24476103	CD, 0.01μF, ±30%, 16V
C104	24794470	EL, 47μF, ±20%, 16V
C105	24474102	CD, 1000pF, ±10%
C106	24797100	EL, 10μF, ±20%, 50V
C107	24763221	EL, 220μF, ±20%, 16V
C111	24763221	EL, 220μF, ±20%, 16V
C112	24474102	CD, 1000pF, ±10%
C113	24232103	CD, 0.01μF, +80%, −20%
C114	24763101	EL, 100μF, ±20%, 16V
C115	24232103	CD, 0.01μF, +80%, −20%
C201	24794100	EL, 10μF, ±20%, 16V
C203	24567104	PF, 0.1μF
C204	24797010	EL, 1μF, ±20%, 50V
C205	24206229	EL, 2.2μF, 50V
C206	24794100	EL, 10μF, ±20%, 16V
C207	24436390	CD, 39pF
C208	24436390	CD, 39pF
C209	24436390	CD, 39pF
C212	24794100	EL, 10μF, ±20%, 16V
C213	24591334	PF, 0.33μF
C303	24214471	CD, 470pF, ±10%, 500V
C305	24617912	EL, 2.2μF, ±10%, 50V
C306	24630798	EL, 3300μF, ±10%, 25kV
C307	24693473	PF, 0.047μF, 100V
C308	24868221	EL, 220μF, ±20%, 35V
C309	24212101	CD, 100pF, ±10%
C310	24797222	EL, 2200μF, ±20%, 50V
C311	24214561	CD, 560pF, ±10%, 500V
C313	24082057	PF, 0.22μF, 100V
C314	24591563	PF, 0.056μF
C315	24591103	PF, 0.01μF
C315	24797229	EL, 2.2μF, ±20%, 50V
C318	24617026	EL, 820μF, ±20%, 16V
C319	24591102	PF, 1000pF
C320	24797101	EL, 100μF, ±20%, 50V
C321	24591203	PF, 0.02μF
C322	24617912	EL, 2.2μF, ±10%, 50V
C323	24591224	PF, 0.22μF
C326	24591683	PF, 0.068μF
C340	24666100	EL, 10μF, ±20%, 16V
C343	24591103	PF, 0.01μF
C350	24591104	PF, 0.1μF
C351	24666222	EL, 2200μF, ±20%, 16V
C360	24667100	EL, 10μF, ±20%, 25V
C361	24669100	EL, 10μF, ±20%, 50V
C362	24538104	PF, 0.1μF
C363	24085942	EL, 10μF, ±20%, 16V, Non-Polar
C364	24666100	EL, 10μF, ±20%, 16V
C370	24794101	EL, 100μF, ±20%, 16V
C371	24796100	EL, 10μF, ±20%, 35V
C401	24567104	PF, 0.1μF
C403	24591203	PF, 0.02μF
C404	24797229	EL, 2.2μF, ±20%, 50V
C413	24214821	CD, 820pF, ±10%, 500V
C415	24591392	PF, 3900pF
C416	24678100	EL, 10μF, ±20%, 200V
C417	24214391	CD, 390pF, ±10%, 500V
C418	24095883	PF, 0.015μF, ±3%, 630V
C419	24095803	PF, 0.062μF, 400V
C420	24666101	EL, 100μF, ±20%, 16V
C423	24095779	PF, 0.62μF, 400V
C430	24232103	CD, 0.01μF, +80%, −20%
C431	24794101	EL, 100μF, ±20%, 16V
⚠C440	24082323	PF, 1000pF, ±3%, 1500V
⚠C441	24095787	PF, 0.3μF, 400V
⚠C443	24082290	PF, 6800pF, ±3%, 1800V
⚠C444	24082287	PF, 5100pF, ±3%, 1800V
C445	24828473	PF, 0.047μF, 200V
C446	24679330	EL, 33μF, ±20%, 250V
C447	24795102	EL, 1000μF, ±20%, 25V
C448	24640908	EL, 33μF, ±20%, 160V
C458	24667100	EL, 10μF, ±20%, 25V
C459	24669478	EL, 0.47μF, ±20%, 50V
C460	24796331	EL, 330μF, ±20%, 35V
C463	24212152	CD, 1500pF, ±10%
C464	24640872	EL, 10μF, ±20%, 100V
C465	24591332	PF, 3300pF
C467	24095881	PF, 0.018μF, ±3%, 630V

Location No.	Part No.	Description
C468	24567474	PF, 0.47μF
C470	24794220	EL, 22μF, ±20%, 16V
C471	24206479	EL, 4.7μF, 50V
C472	24567474	PF, 0.47μF
C473	24567474	PF, 0.47μF
C475	24095887	PF, 0.01μF, ±3%, 630V
C477	24092338	CD, 270pF, ±10%, 2kV
C481	24567104	PF, 0.1μF
C482	24591152	PF, 1500pF
C483	24567224	PF, 0.22μF
C485	24766101	PF, 0.1μF
C493	24591124	PF, 0.12μF
C501	24232103	CD, 0.01μF, +80%, −20%
C502	24232103	CD, 0.01μF, +80%, −20%
C503	24763101	EL, 100μF, ±20%, 16V
C504	24591222	PF, 2200pF
C505	24353120	CD, 12pF
C507	24353130	CD, 13pF
C508	24794100	EL, 10μF, ±20%, 16V
C509	24763101	EL, 100μF, ±20%, 16V
C510	24763101	EL, 100μF, ±20%, 16V
C511	24232103	CD, 0.01μF, +80%, −20%
C512	24206228	EL, 0.22μF, 50V
C513	24232103	CD, 0.01μF, +80%, −20%
C514	24567104	PF, 0.1μF
C515	24567104	PF, 0.1μF
C517	24472010	CD, 1pF, ±20%
C601	24591102	PF, 1000pF
C602	24591102	PF, 1000pF
C603	24797100	EL, 10μF, ±20%, 50V
C604	24797100	EL, 10μF, ±20%, 50V
C605	24795101	EL, 100μF, ±20%, 25V
C606	24795101	EL, 100μF, ±20%, 25V
C607	24591104	PF, 0.1μF
C608	24591104	PF, 0.1μF
C609	24669102	EL, 1000μF, ±20%, 50V
C610	24669102	EL, 1000μF, ±20%, 50V
C611	24795221	EL, 220μF, ±20%, 25V
C612	24794221	EL, 220μF, ±20%, 16V
C613	24797478	EL, 0.47μF, ±20%, 50V
C614	24797478	EL, 0.47μF, ±20%, 50V
C664	24797479	EL, 4.7μF, ±20%, 50V
C680	24669471	EL, 470μF, ±20%, 50V
C681	24591104	PF, 0.1μF
C701	24781330	Chip, 33pF, SL
C702	24781330	Chip, 33pF, SL
C711	24206100	EL, 10μF, 50V
C714	24092293	Chip, 0.1μF, +80%,−20%, 25V
C715	24092441	Chip, 1μF, +80%,−20%, 16V
C716	24815822	Chip, 8200pF, ±10%
C717	24774470	Chip, 47pF, CH
C718	24774470	Chip, 47pF, CH
C719	24794101	EL, 100μF, ±20%, 16V
C720	24092293	Chip, 0.1μF, +80%,−20%, 25V
C721	24590104	PF, 0.1μF
C722	24092293	Chip, 0.1μF, +80%,−20%, 25V
C724	24092293	Chip, 0.1μF, +80%,−20%, 25V
C725	24092293	Chip, 0.1μF, +80%,−20%, 25V
C726	24092293	Chip, 0.1μF, +80%,−20%, 25V
C727	24092293	Chip, 0.1μF, +80%,−20%, 25V
C728	24763221	EL, 220μF, ±20%, 16V
C729	24092293	Chip, 0.1μF, +80%,−20%, 25V
C730	24590104	PF, 0.1μF
C731	24766010	EL, 1.0μF, ±20%, 50V

Location No.	Part No.	Description
C732	24590822	PF, 8200pF
C735	24092293	Chip, 0.1μF, +80%,−20%, 25V
C736	24794470	EL, 47μF, ±20%, 16V
C739	24092293	Chip, 0.1μF, +80%,−20%, 25V
C740	24092293	Chip, 0.1μF, +80%,−20%, 25V
C741	24794470	EL, 47μF, ±20%, 16V
C742	24794470	EL, 47μF, ±20%, 16V
C743	24092293	Chip, 0.1μF, +80%,−20%, 25V
C744	24092293	Chip, 0.1μF, +80%,−20%, 25V
C745	24794470	EL, 47μF, ±20%, 16V
C746	24794470	EL, 47μF, ±20%, 16V
C747	24092293	Chip, 0.1μF, +80%,−20%, 25V
C748	24092293	Chip, 0.1μF, +80%,−20%, 25V
C749	24794470	EL, 47μF, ±20%, 16V
C750	24794470	EL, 47μF, ±20%, 16V
C756	24781330	Chip, 33pF, SL
C761	24590182	PF, 1800pF
C762	24590562	PF, 5600pF
C763	24774391	Chip, 390pF
C765	24590182	PF, 1800pF
C766	24590562	PF, 5600pF
C767	24774391	Chip, 390pF
C769	24590182	PF, 1800pF
C770	24590562	PF, 5600pF
C771	24774391	Chip, 390pF
C773	24590182	PF, 1800pF
C774	24590562	PF, 5600pF
C775	24774391	Chip, 390pF
C777	24590182	PF, 1800pF
C778	24590562	PF, 5600pF
C779	24774391	Chip, 390pF
C781	24590182	PF, 1800pF
C782	24590562	PF, 5600pF
C783	24774391	Chip, 390pF
C795	24761221	EL, 220μF, ±20%, 6.3V
C798	24763101	EL, 100μF, ±20%, 16V
C799	24763101	EL, 100μF, ±20%, 16V
⚠C801	24082374	PF, 0.22μF, AC250V
⚠C802	24082318	PF, 0.1μF, ±20%, AC250V
⚠C803	24082194	PF, 0.22μF, ±20%, AC250V
⚠C804	24082374	PF, 0.22μF, AC250V
C805	24092281	CD, 4700pF, ±20%, AC250V
C806	24092281	CD, 4700pF, ±20%, AC250V
C808	24669221	EL, 220μF, ±20%, 50V
C809	24214471	CD, 470pF, ±10%, 500V
C810	24086043	EL, 820μF, ±20%, 450V
⚠C811(U401)	24094655	CD, 1000pF, ±20%, AC400V
⚠C811(U802)	24094654	CD, 470pF, ±20%, AC400V
⚠C812	24094654	CD, 470pF, ±20%, AC400V
C816	24667221	EL, 220μF, ±20%, 25V
C817	24092341	CD, 470pF, ±10%, 2kV
C818	24095931	PF, 2200pF, 1250V
⚠C819	24094654	CD, 470pF, ±20%, AC400V
C820	24092343	CD, 680pF, ±10%, 2kV
⚠C821	24082374	PF, 0.22μF, AC250V
⚠C824	24082374	PF, 0.22μF, AC250V
C829	24590152	PF, 1500pF
C832	24539474	PF, 0.47μF
C833(U901)	24539474	PF, 0.47μF
C833(U401)	24669479	EL, 4.7μF, ±20%, 50V
C834	24539334	PF, 0.33μF
C835	24203470	EL, 47μF, ±20%, 16V
C836	24232103	CD, 0.01μF, +80%, −20%
C837	24567334	PF, 0.33μF

Location No.	Part No.	Description
C838	24763221	EL, 220μF, ±20%, 16V
C840	24214471	CD, 470pF, ±10%, 500V
C841	24676220	EL, 22μF, ±20%, 100V
C842	24538474	PF, 0.47μF
C843	24538474	PF, 0.47μF
C844	24567334	PF, 0.33μF
C845	24665471	EL, 470μF, ±20%, 10V
C846	24567104	PF, 0.1μF
C847	24669470	EL, 47μF, ±20%, 50V
C850	24092281	CD, 4700pF, ±20%, AC250V
C851	24092281	CD, 4700pF, ±20%, AC250V
C852	24092281	CD, 4700pF, ±20%, AC250V
C853	24092281	CD, 4700pF, ±20%, AC250V
C854	24086936	EL, 270μF, ±20%, 450V
C855	24092341	CD, 470pF, ±10%, 2kV
C856	24095913	PF, 1500pF, ±3%, 1600V
C857	24617819	EL, 47μF, ±20%, 50V
C858	24214471	CD, 470pF, ±10%, 500V
C859	24214471	CD, 470pF, ±10%, 500V
C860	24676470	EL, 47μF, ±20%, 100V
C861	24676220	EL, 22μF, ±20%, 100V
C862	24590152	PF, 1500pF
⚠C863	24094654	CD, 470pF, ±20%, AC400V
⚠C864	24094654	CD, 470pF, ±20%, AC400V
C865	24214331	CD, 330pF, ±10%, 500V
C866	24214331	CD, 330pF, ±10%, 500V
C867	24214471	CD, 470pF, ±10%, 500V
C868	24214471	CD, 470pF, ±10%, 500V
C869	24669470	EL, 47μF, ±20%, 50V
C870	24795332	EL, 3300μF, 25V
C871	24795332	EL, 3300μF, 25V
C872	24214471	CD, 470pF, ±10%, 500V
C873	24797222	EL, 2200μF, ±20%, 50V
C874	24214471	CD, 470pF, ±10%, 500V
C875	24567563	PF, 0.056μF
C876	24797100	EL, 10μF, ±20%, 50V
C877	24797100	EL, 10μF, ±20%, 50V
C878	24567104	PF, 0.1μF
C879	24797100	EL, 10μF, ±20%, 50V
C880	24677220	EL, 22μF, ±20%, 160V
C884	24086049	EL, 330μF, ±20%, 160V
C885	24214471	CD, 470pF, ±10%, 500V
C887	24214471	CD, 470pF, ±10%, 500V
C889	24797222	EL, 2200μF, ±20%, 50V
C890	24666101	EL, 100μF, ±20%, 16V
C891	24666101	EL, 100μF, ±20%, 16V
C892	24795472	EL, 4700μF, ±20%, 25V
C893	24092338	CD, 270pF, ±10%, 2kV
C894	24669229	EL, 2.2μF, ±20%, 50V
C895	24676470	EL, 47μF, ±20%, 100V
C897	24795472	EL, 4700μF, ±20%, 25V
C898	24567474	PF, 0.47μF
C899	24214471	CD, 470pF, ±10%, 500V
C901	24211102	CD, 1000pF, ±10%, 2kV
C902	24794101	EL, 100μF, ±20%, 16V
C903	24232103	CD, 0.01μF, +80%, -20%
C904	24436471	CD, 470pF
C905	24214102	CD, 1000pF, ±10%, 500V
C911	24211102	CD, 1000pF, ±10%, 2kV
C912	24794101	EL, 100μF, ±20%, 16V
C913	24232103	CD, 0.01μF, +80%, -20%
C914	24436471	CD, 470pF
C915	24679330	EL, 33μF, ±20%, 250V
C916	24794102	EL, 1000μF, ±20%, 16V

Location No.	Part No.	Description
C921	24211102	CD, 1000pF, ±10%, 2kV
C922	24794101	EL, 100μF, ±20%, 16V
C923	24436471	CD, 470pF
C924	24232103	CD, 0.01μF, +80%, -20%
C941	24797478	EL, 0.47μF, ±20%, 50V
C943	24794471	EL, 470μF, ±20%, 16V
C944	24203100	EL, 10μF, ±20%, 16V
C961	24794101	EL, 100μF, ±20%, 16V
C962	24203100	EL, 10μF, ±20%, 16V
C963	24591104	PF, 0.1μF
C964	24591104	PF, 0.1μF
C7701	24761221	EL, 220μF, ±20%, 6.3V
C7721	24212102	CD, 1000pF, ±10%
C7722	24436101	CD, 100pF
C7724	24795101	EL, 100μF, ±20%, 25V
C7725	24795101	EL, 100μF, ±20%, 25V
C7726	24212102	CD, 1000pF, ±10%
C7727	24436101	CD, 100pF
C7729	24212102	CD, 1000pF, ±10%
C7730	24436101	CD, 100pF
C7732	24212102	CD, 1000pF, ±10%
C7733	24436101	CD, 100pF
C7735	24795101	EL, 100μF, ±20%, 25V
C7736	24797101	EL, 100μF, ±20%, 50V
C7737	24212102	CD, 1000pF, ±10%
C7738	24436101	CD, 100pF
C7740	24212102	CD, 1000pF, ±10%
C7741	24436101	CD, 100pF
C7747	24794101	EL, 100μF, ±20%, 16V
C7748	24232103	CD, 0.01μF, +80%, -20%
C7749	24232103	CD, 0.01μF, +80%, -20%
C7750	24764101	EL, 100μF, ±20%, 25V
C7751	24794101	EL, 100μF, ±20%, 16V
C7752	24232103	CD, 0.01μF, +80%, -20%
C7753	24232103	CD, 0.01μF, +80%, -20%
C7754	24764101	EL, 100μF, ±20%, 25V
C7755	24794101	EL, 100μF, ±20%, 16V
C7756	24232103	CD, 0.01μF, +80%, -20%
C7757	24232103	CD, 0.01μF, +80%, -20%
C7758	24764101	EL, 100μF, ±20%, 25V
C7760	24797478	EL, 0.47μF, ±20%, 50V
C7761	24795470	EL, 47μF, ±20%, 25V
C7762	24794470	EL, 47μF, ±20%, 16V
C7763	24797478	EL, 0.47μF, ±20%, 50V
C7764	24436331	CD, 330pF
C7765	24797479	EL, 4.7μF, ±20%, 50V
C7766	24797479	EL, 4.7μF, ±20%, 50V
C7767	24232103	CD, 0.01μF, +80%, -20%
C7768	24232103	CD, 0.01μF, +80%, -20%
C7769	24232103	CD, 0.01μF, +80%, -20%
C7770	24797478	EL, 0.47μF, ±20%, 50V
C7771	24567103	PF, 0.01μF
C7772	24567224	PF, 0.22μF
C7774	24436331	CD, 330pF
C7775	24590122	PF, 1200pF
CA13	24474101	CD, 100pF, ±10%
CA22	24474101	CD, 100pF, ±10%
CA23	24474101	CD, 100pF, ±10%
CA24	24474101	CD, 100pF, ±10%
CA25	24474101	CD, 100pF, ±10%
CA33	24232103	CD, 0.01μF, +80%, -20%
CA36	24474101	CD, 100pF, ±10%
CA37	24474101	CD, 100pF, ±10%
CA38	24474101	CD, 100pF, ±10%

Location No.	Part No.	Description
CA42	24794100	EL, 10μF, ±20%, 16V
CA43	24232103	CD, 0.01μF, +80%, −20%
CA44	24232103	CD, 0.01μF, +80%, −20%
CA68	24794100	EL, 10μF, ±20%, 16V
CA69	24232103	CD, 0.01μF, +80%, −20%
CB01	24794470	EL, 47μF, ±20%, 16V
CB40	24212101	CD, 100pF, ±10%
CB41	24212101	CD, 100pF, ±10%
CB61	24797010	EL, 1μF, ±20%, 50V
CB62	24591683	PF, 0.068μF
CB63	24591333	PF, 0.033μF
CD80	24203100	EL, 10μF, ±20%, 16V
CG01	24591224	PF, 0.22μF
CG02	24591104	PF, 0.1μF
CG03	24591104	PF, 0.1μF
CG04	24206010	EL, 1μF, 50V
CG05	24787220	EL, 22μF, ±20%, 50V
CG07	24206010	EL, 1μF, 50V
CG08	24206010	EL, 1μF, 50V
CG09	24206010	EL, 1μF, 50V
CG12	24591273	PF, 0.027μF
CG13	24232103	CD, 0.01μF, +80%, −20%
CG14	24203101	EL, 100μF, ±20%, 16V
CG15	24591822	PF, 8200pF
CG16	24206010	EL, 1μF, 50V
CG17	24591273	PF, 0.027μF
CG18	24591822	PF, 8200pF
CG20	24203100	EL, 10μF, ±20%, 16V
CG24	24474102	CD, 1000pF, ±10%
CG25	24206228	EL, 2.2μF, 50V
CG26	24206228	EL, 2.2μF, 50V
CG30	24203100	EL, 10μF, ±20%, 16V
CQ01	24212102	CD, 1000pF, ±10%
CQ02	24353820	CD, 82pF
CQ03	24212102	CD, 1000pF, ±10%
CQ04	24794100	EL, 10μF, ±20%, 16V
CQ05	24590563	PF, 0.056μF
CQ07	24590203	PF, 0.02μF
CQ08	24590683	PF, 0.068μF
CQ09	24797229	EL, 2.2μF, ±20%, 50V
CQ10	24590223	PF, 0.022μF
CQ11	24797229	EL, 2.2μF, ±20%, 50V
CQ12	24436910	CD, 91pF
CQ13	24797010	EL, 1μF, ±20%, 50V
CQ14	24797010	EL, 1μF, ±20%, 50V
CQ15	24794101	EL, 100μF, ±20%, 16V
CQ16	24232103	CD, 0.01μF, +80%, −20%
CQ17	24353150	CD, 15pF
CQ18	24436910	CD, 91pF
CQ19	24590103	PF, 0.01μF
CQ20	24567104	PF, 0.1μF
CQ21	24794470	EL, 47μF, ±20%, 16V
CQ22	24232103	CD, 0.01μF, +80%, −20%
CQ23	24567104	PF, 0.1μF
CQ24	24567104	PF, 0.1μF
CQ25	24797100	EL, 10μF, ±20%, 50V
CQ26	24567104	PF, 0.1μF
CQ27	24567104	PF, 0.1μF
CQ28	24797478	EL, 0.47μF, ±20%, 50V
CQ29	24794101	EL, 100μF, ±20%, 16V
CQ30	24232103	CD, 0.01μF, +80%, −20%
CQ31	24797478	EL, 0.47μF, ±20%, 50V
CQ32	24590103	PF, 0.01μF
CQ33	24567104	PF, 0.1μF

Location No.	Part No.	Description
CQ34	24567104	PF, 0.1μF
CQ35	24206478	EL, 0.47μF, 50V
CQ36	24206478	EL, 0.47μF, 50V
CQ37	24797010	EL, 1μF, ±20%, 50V
CQ38	24797010	EL, 1μF, ±20%, 50V
CQ39	24797010	EL, 1μF, ±20%, 50V
CQ40	24436910	CD, 91pF
CR01	24567104	PF, 0.1μF
CR02	24567104	PF, 0.1μF
CR03	24567104	PF, 0.1μF
CR05	24232103	CD, 0.01μF, +80%, −20%
CR06	24666100	EL, 10μF, ±20%, 16V
CR12(U901)	24206108	EL, 0.1μF, 50V
CR12(UM01)	24666100	EL, 10μF, ±20%, 16V
CR13	24206108	EL, 0.1μF, 50V
CR14	24206108	EL, 0.1μF, 50V
CR15	24762471	EL, 470μF, ±20%, 10V
CS01	24206010	EL, 1μF, 50V
CS02	24206010	EL, 1μF, 50V
CS03	24206010	EL, 1μF, 50V
CS05	24206010	EL, 1μF, 50V
CS06	24206010	EL, 1μF, 50V
CS07	24206010	EL, 1μF, 50V
CS08	24206010	EL, 1μF, 50V
CS09	24206010	EL, 1μF, 50V
CS10	24206010	EL, 1μF, 50V
CS11	24232103	CD, 0.01μF, +80%, −20%
CS21	24212152	CD, 1500pF, ±10%
CS22	24212152	CD, 1500pF, ±10%
CS23	24206478	EL, 0.47μF, 50V
CS32	24203100	EL, 10μF, ±20%, 16V
CS33	24763101	EL, 100μF, ±20%, 16V
CS601	24794100	EL, 10μF, ±20%, 16V
CS602	24794100	EL, 10μF, ±20%, 16V
CS605	24797478	EL, 0.47μF, ±20%, 50V
CT01	24590104	PF, 0.1μF
CT02	24353080	CD, 8pF, ±0.25pF
CT03	24353150	CD, 15pF
CT04	24212102	CD, 1000pF, ±10%
CT05	24590104	PF, 0.1μF
CT06	24590104	PF, 0.1μF
CT07	24085944	EL, 2.2μF, ±20%, 50V, Non-Polar
CT08	24232103	CD, 0.01μF, +80%, −20%
CT09	24794101	EL, 100μF, ±20%, 16V
CT10	24436220	CD, 22pF
CT11	24794101	EL, 100μF, ±20%, 16V
CT12	24590104	PF, 0.1μF
CT13	24794100	EL, 10μF, ±20%, 16V
CT14	24794100	EL, 10μF, ±20%, 16V
CT15	24436101	CD, 100pF
CT16	24436220	CD, 22pF
CT17	24232103	CD, 0.01μF, +80%, −20%
CV01	24232103	CD, 0.01μF, +80%, −20%
CV02	24203100	EL, 10μF, ±20%, 16V
CV03	24203100	EL, 10μF, ±20%, 16V
CV04	24203100	EL, 10μF, ±20%, 16V
CV05	24232103	CD, 0.01μF, +80%, −20%
CV06	24203100	EL, 10μF, ±20%, 16V
CV07	24763471	EL, 470μF, ±20%, 16V
CV08	24763471	EL, 470μF, ±20%, 16V
CV09	24203100	EL, 10μF, ±20%, 16V
CV10	24203100	EL, 10μF, ±20%, 16V
CV12	24232103	CD, 0.01μF, +80%, −20%

Location No.	Part No.	Description
CV13	24232103	CD, 0.01μF, +80%, −20%
CV27	24763471	EL, 470μF, ±20%, 16V
CV29	24763101	EL, 100μF, ±20%, 16V
CV30	24232103	CD, 0.01μF, +80%, −20%
CV31	24474102	CD, 1000pF, ±10%
CV40	24763101	EL, 100μF, ±20%, 16V
CV41	24232103	CD, 0.01μF, +80%, −20%
CV42	24203330	EL, 33μF, ±20%, 16V
CV43	24436910	CD, 91pF
CV44	24436101	CD, 100pF
CV46(U027)	24232103	CD, 0.01μF, +80%, −20%
CV46(UV01)	24763101	EL, 100μF, ±20%, 16V
CV47	24232103	CD, 0.01μF, +80%, −20%
CV48(UV01)	24203330	EL, 33μF, ±20%, 16V
CV48(U027)	24476103	CD, 0.01μF, ±30%, 16V
CV53	24474102	CD, 1000pF, ±10%
CV54	24474820	CD, 82pF, ±10%
CW04	24591822	PF, 8200pF
CW05	24212103	CD, 0.01μF, ±10%
CW07	24666470	EL, 47μF, ±20%, 16V
CW12	24666470	EL, 47μF, ±20%, 16V
CW13	24790100	EL, 10μF, ±20%, 160V
CW14	24436101	CD, 100pF
CW15	24214472	CD, 4700pF, ±10%, 500V
CW16	24436101	CD, 100pF
CW17	24214472	CD, 4700pF, ±10%, 500V
CW18	24790470	EL, 47μF, ±20%, 160V
CW19	24435560	CD, 56pF, 500V
CW20	24790100	EL, 10μF, ±20%, 160V
CW21	24790470	EL, 47μF, ±20%, 160V
CW22	24436561	CD, 560pF
CW26	24212102	CD, 1000pF, ±10%
CY01	24763221	EL, 220μF, ±20%, 16V
CY601	24794101	EL, 100μF, ±20%, 16V
CY602	24797479	EL, 4.7μF, ±20%, 50V
CY603	24797479	EL, 4.7μF, ±20%, 50V
CY604	24794100	EL, 10μF, ±20%, 16V
CY605	24794100	EL, 10μF, ±20%, 16V
CY606	24794100	EL, 10μF, ±20%, 16V
CY607	24797229	EL, 2.2μF, ±20%, 50V
CY608	24794101	EL, 100μF, ±20%, 16V
CY609	24797229	EL, 2.2μF, ±20%, 50V
CZ07	24206229	EL, 2.2μF, 50V
CZ08	24203100	EL, 10μF, ±20%, 16V
CZ09	24436220	CD, 22pF
CZ10	24473180	CD, 18pF
CZ11	24473100	CD, 10pF
CZ12	24232103	CD, 0.01μF, +80%, −20%
CZ13	24092398	CD, 0.1μF, +80%, −20%
CZ14	24617816	EL, 10μF, ±20%, 50V
CZ15	24232103	CD, 0.01μF, +80%, −20%
CZ16	24206478	EL, 0.47μF, 50V
CZ17	24232103	CD, 0.01μF, +80%, −20%
CZ19	24436181	CD, 180pF
CZ20	24567103	PF, 0.01μF
CZ21	24436390	CD, 39pF
CZ22	24617816	EL, 10μF, ±20%, 50V
CZ23	24092398	CD, 0.1μF, +80%, −20%
CZ24	24092398	CD, 0.1μF, +80%, −20%
CZ26	24203101	EL, 100μF, ±20%, 16V
CZ26	24232103	CD, 0.01μF, +80%, −20%
CZ28	24232103	CD, 0.01μF, +80%, −20%
CZ29	24092398	CD, 0.1μF, +80%, −20%
CZ30	24617816	EL, 10μF, ±20%, 50V

Location No.	Part No.	Description
CZ32	24436120	CD, 12pF
CZ33	24436120	CD, 12pF
CZ34	24473120	CD, 12pF
CZ35	24473120	CD, 12pF
CZ36	24232103	CD, 0.01μF, +80%, −20%
CZ37	24092398	CD, 0.1μF, +80%, −20%
CZ38	24092398	CD, 0.1μF, +80%, −20%
CZ43	24232103	CD, 0.01μF, +80%, −20%
CZ45	24436180	CD, 18pF

RESISTORS

R101	24362153	OMF, 15k ohm, 1W
R201	24366821	CF, 820 ohm
R202	24366102	CF, 1k ohm
R204	24366104	CF, 100k ohm
R205	24366101	CF, 100 ohm
R206	24366102	CF, 1k ohm
R207	24366101	CF, 100 ohm
R208	24366101	CF, 100 ohm
R209	24366101	CF, 100 ohm
R212	24366472	CF, 4700 ohm
R213	24366122	CF, 1200 ohm
R214	24366222	CF, 2200 ohm
R215	24366272	CF, 2700 ohm
R216	24366103	CF, 10k ohm
R217	24366102	CF, 1k ohm
R218	24367103	CF, 10k ohm, ±2%
R220	24366272	CF, 2700 ohm
R221	24366102	CF, 1k ohm
R223	24366102	CF, 1k ohm
R227	24367912	CF, 9100 ohm, ±2%
R230	24366562	CF, 5600 ohm
R301	24366102	CF, 1k ohm
R303	24321129	MF, 1.2 ohm, 1/2W
R304	24367223	CF, 22k ohm, ±2%
R305	24322828	OMF, 0.82 ohm, 1W
R306	24367563	CF, 56k ohm, ±2%
R307	24367224	CF, 220k ohm
R308	24382391	OMF, 390 ohm, 1W
R311	24366392	CF, 3900 ohm
R312	24366153	CF, 15k ohm
R313(U029)	24366104	CF, 100k ohm
R313(U401)	24367153	CF, 15k ohm, ±2%
R314	24366105	CF, 1M ohm
R315	24366824	CF, 820k ohm
R316	24366154	CF, 150k ohm
R318	24366471	CF, 470 ohm
R319	24366471	CF, 470 ohm
R320	24366101	CF, 100 ohm
R321	24366101	CF, 100 ohm
R322	24366183	CF, 18k ohm
R323	24366562	CF, 5600 ohm
R324	24366101	CF, 100 ohm
R325	24366183	CF, 18k ohm
⚠R327	24000187	FR, 3.3 ohm, 1W
R328	24366104	CF, 100k ohm
R329	24366203	CF, 20k ohm
R330	24366102	CF, 1k ohm
R334	24366102	CF, 1k ohm
⚠R336	24383271	OMF, 270 ohm, 2W
R341	24366682	CF, 6800 ohm
R343	24366153	CF, 15k ohm
R346	24366102	CF, 1k ohm
R347	24366184	CF, 180k ohm

Location No.	Part No.	Description
R350	24366331	CF, 330 ohm
R351	24366823	CF, 82k ohm
R352	24366104	CF, 100k ohm
R353	24366470	CF, 47 ohm
R354(UD01)	24366272	CF, 2700 ohm
R354(U401)	24366562	CF, 5600 ohm
R356	24366822	CF, 8200 ohm
R357	24382103	OMF, 10k ohm, 1W
R360	24366102	CF, 1k ohm
R361	24366113	CF, 11k ohm
R362	24366754	CF, 750k ohm
R363	24366103	CF, 10k ohm
R364	24366103	CF, 10k ohm
R365	24366103	CF, 10k ohm
R366	24366103	CF, 10k ohm
R367	24366752	CF, 7500 ohm
R368	24366103	CF, 10k ohm
R369	24366822	CF, 8200 ohm
R370	24321159	MF, 1.5 ohm, 1/2W
R371	24366562	CF, 5600 ohm
R372	24366392	CF, 3900 ohm
R373	24366182	CF, 1800 ohm
R374	24366473	CF, 47k ohm
R375	24366102	CF, 1k ohm
R389	24366222	CF, 2200 ohm
R390	24366682	CF, 6800 ohm
R391	24366163	CF, 16k ohm
R392	24366822	CF, 8200 ohm
R401	24366391	CF, 390 ohm
R402	24366103	CF, 10k ohm
R403	24366302	CF, 3k ohm
R405	24382682	OMF, 6800 ohm, 1W
R407	24366103	CF, 10k ohm
R409	24321209	MF, 2 ohm, 1/2W
R410	24366331	CF, 330 ohm
R411	24366471	CF, 470 ohm
R413	24366274	CF, 270k ohm
R415	24553272	OMF, 2700 ohm, 1W
⚠R416	24510562	Cement, 5600 ohm, 5W
R417	24366471	CF, 470 ohm
⚠R424	24546338	FR, 0.33 ohm, 1/2W
R425	24552471	OMF, 470 ohm, 1/2W
R426	24366821	CF, 820 ohm
R427	24366392	CF, 3900 ohm
R428	24366561	CF, 560 ohm
R429	24552560	OMF, 56 ohm, 1/2W
R431	24382100	OMF, 10 ohm, 1W
⚠R432	24532560	FR, 56 ohm, 1W
R434	24366102	CF, 1k ohm
R435	24366333	CF, 33k ohm
R436	24327224	MF, 220k ohm, ±1%, 1/4W
R438	24381102	OMF, 1k ohm, 1/2W
R439	24366472	CF, 4700 ohm
⚠R441	24532102	FR, 1k ohm, 1W
R442	24382513	OMF, 51k ohm, 1W
R443	24310109	MF, 1.0 ohm, 1/2W
⚠R444	24338398	MF, 0.39 ohm, 1W
R447	24382473	OMF, 47k ohm, 1W
R448	24338828	MF, 0.82 ohm, 1W
R450	24066879	VR, 1k ohm, 0.3W
R451	24366273	CF, 27k ohm
R452	24366273	CF, 27k ohm
R453	24366273	CF, 27k ohm
R454	24366223	CF, 22k ohm

Location No.	Part No.	Description
R455	24366333	CF, 33k ohm
R458	24366823	CF, 82k ohm
R459	24367273	CF, 27k ohm, ±2%
R460	24552332	OMF, 3300 ohm, 1/2W
R461	24003924	MF, 3300 ohm, 1/4W
R462	24367103	CF, 10k ohm, ±2%
R463	24339479	MF, 4.7 ohm, 2W
R464	24366273	CF, 27k ohm
R465	24366114	CF, 110k ohm
R466	24366562	CF, 5600 ohm
R467	24366102	CF, 1k ohm
R468	24366333	CF, 33k ohm
R469	24000465	FR, 9.1 ohm, 1W
R470	24338568	MF, 0.56 ohm, 1W
R471	24381301	OMF, 300 ohm, 1/2W
R472	24552270	OMF, 27 ohm, 1/2W
R478	24376333	CF, 33k ohm, 1/2W
R479	24381750	OMF, 75 ohm, 1/2W
R480(U401)	24942185	CC, 1.8M ohm, 1/2W
R480(U029)	24552272	OMF, 2700 ohm, 1/2W
R481	24366393	CF, 39k ohm
R482	24366103	CF, 10k ohm
R483	24366154	CF, 150k ohm
R484	24366473	CF, 47k ohm
R486	24382103	OMF, 10k ohm, 1W
R487	24366472	CF, 4700 ohm
R488	24366474	CF, 470k ohm
R489	24366332	CF, 3300 ohm
R490	24366332	CF, 3300 ohm
R491	24366912	CF, 9100 ohm
R492	24366102	CF, 1k ohm
R493	24366682	CF, 6800 ohm
R494	24366183	CF, 18k ohm
R501	24366223	CF, 22k ohm
R502	24366101	CF, 100 ohm
R503	24366101	CF, 100 ohm
R504	24366101	CF, 100 ohm
R505	24366102	CF, 1k ohm
R506	24366103	CF, 10k ohm
R508	24366102	CF, 1k ohm
R509	24366102	CF, 1k ohm
R510	24366102	CF, 1k ohm
R511	24366101	CF, 100 ohm
R512	24366101	CF, 100 ohm
R601	24366562	CF, 5600 ohm
R602	24366562	CF, 5600 ohm
R603	24366222	CF, 2200 ohm
R604	24366222	CF, 2200 ohm
R607	24366100	CF, 10 ohm
R608	24366100	CF, 10 ohm
R609	24366229	CF, 2.2 ohm
R610	24366229	CF, 2.2 ohm
R611	24366223	CF, 22k ohm
R612	24366223	CF, 22k ohm
R680	24366473	CF, 47k ohm
R681	24366103	CF, 10k ohm
R683	24366223	CF, 22k ohm
R684	24366223	CF, 22k ohm
R687	24366103	CF, 10k ohm
R688(U027)	24552391	OMF, 390 ohm, 1/2W
R688(U901)	24366103	CF, 10k ohm
R690	24552391	OMF, 390 ohm, 1/2W
R701	24872221	Chip, 220 ohm, 1/16W
R702	24872221	Chip, 220 ohm, 1/16W

Location No.	Part No.	Description
R707	24872100	Chip, 10 ohm, 1/16W
R708	24872100	Chip, 10 ohm, 1/16W
R709	24872100	Chip, 10 ohm, 1/16W
R710	24872100	Chip, 10 ohm, 1/16W
R711	24872100	Chip, 10 ohm, 1/16W
R712	24872100	Chip, 10 ohm, 1/16W
R713	24872100	Chip, 10 ohm, 1/16W
R714	24872100	Chip, 10 ohm, 1/16W
R715	24872153	Chip, 15k ohm, 1/16W
R716	24872103	Chip, 10k ohm, 1/16W
R717	24872622	Chip, 6200 ohm, 1/16W
R718	24872332	Chip, 3300 ohm, 1/16W
R720	24872103	Chip, 10k ohm, 1/16W
R721	24872223	Chip, 22k ohm, 1/16W
R722	24872222	Chip, 2200 ohm, 1/16W
R725	24872754	Chip, 750k ohm, 1/16W
R727	24871561	Chip, 560 ohm, 1/8W
R728	24872393	Chip, 39k ohm, 1/16W
R729	24872153	Chip, 15k ohm, 1/16W
R735	24872911	Chip, 910 ohm, 1/16W
R736	24872911	Chip, 910 ohm, 1/16W
R737	24872152	Chip, 1500 ohm, 1/16W
R738	24872332	Chip, 3300 ohm, 1/16W
R739	24872362	Chip, 3600 ohm, 1/16W
R740	24872911	Chip, 910 ohm, 1/16W
R741	24872911	Chip, 910 ohm, 1/16W
R742	24872152	Chip, 1500 ohm, 1/16W
R743	24872332	Chip, 3300 ohm, 1/16W
R744	24872362	Chip, 3600 ohm, 1/16W
R745	24872911	Chip, 910 ohm, 1/16W
R746	24872911	Chip, 910 ohm, 1/16W
R747	24872152	Chip, 1500 ohm, 1/16W
R748	24872332	Chip, 3300 ohm, 1/16W
R749	24872362	Chip, 3600 ohm, 1/16W
R750	24872911	Chip, 910 ohm, 1/16W
R751	24872911	Chip, 910 ohm, 1/16W
R752	24872152	Chip, 1500 ohm, 1/16W
R753	24872332	Chip, 3300 ohm, 1/16W
R754	24872362	Chip, 3600 ohm, 1/16W
R755	24872911	Chip, 910 ohm, 1/16W
R756	24872911	Chip, 910 ohm, 1/16W
R757	24872152	Chip, 1500 ohm, 1/16W
R758	24872332	Chip, 3300 ohm, 1/16W
R759	24872362	Chip, 3600 ohm, 1/16W
R760	24872911	Chip, 910 ohm, 1/16W
R761	24872911	Chip, 910 ohm, 1/16W
R762	24872152	Chip, 1500 ohm, 1/16W
R763	24872332	Chip, 3300 ohm, 1/16W
R764	24872362	Chip, 3600 ohm, 1/16W
R778	24872101	Chip, 100 ohm, 1/16W
R779	24872101	Chip, 100 ohm, 1/16W
R780	24872101	Chip, 100 ohm, 1/16W
R781	24872101	Chip, 100 ohm, 1/16W
R782	24872101	Chip, 100 ohm, 1/16W
R783	24872101	Chip, 100 ohm, 1/16W
R786	24872472	Chip, 4700 ohm, 1/16W
R787	24872472	Chip, 4700 ohm, 1/16W
⚠R801	24009954	Metal-Glazed Resistor, 2.2M ohm, 1/2W
R803	24384223	OMF, 22k ohm, 3W
⚠R804	24545109	FR, 1 ohm, 1/4W
R805	24366101	CF, 100 ohm
R806	24007061	Cement, 1.8 ohm, ±10%, 2W
⚠R807	24007065	Cement, 4.7 ohm, 5W

Location No.	Part No.	Description
R808	24552472	OMF, 4700 ohm, 1/2W
R812	24381103	OMF, 10k ohm, 1/2W
R813	24366182	CF, 1800 ohm
R814	24366122	CF, 1200 ohm
R815	24552102	OMF, 1k ohm, 1/2W
R816	24323689	MF, 6.8 ohm, 2W
R817	24366472	CF, 4700 ohm
R818	24322278	MF, 0.27 ohm, 1W
R819	24321568	MF, 0.56 ohm, 1/2W
R821	24366101	CF, 100 ohm
R822	24321568	MF, 0.56 ohm, 1/2W
R824	24366472	CF, 4700 ohm
R825	24366153	CF, 15k ohm
R827	24366102	CF, 1k ohm
R828	24366562	CF, 5600 ohm
R829	24322278	MF, 0.27 ohm, 1W
⚠R830	24569181	Cement, 180 ohm, 10W
R831	24383152	OMF, 1500 ohm, 2W
R832	24383152	OMF, 1500 ohm, 2W
R836(U901)	24366101	CF, 100 ohm
R836(U401)	24327620	MF, 62 ohm, ±1%
R837	24000145	MF, 330 ohm, ±1%, 1/4W
R838	24366103	CF, 10k ohm
R840	24366681	CF, 680 ohm
R842	24381471	OMF, 470 ohm, 1/2W
R843	24652561	OMF, 560 ohm, 1/2W
R847	24366102	CF, 1k ohm
R848	24366472	CF, 4700 ohm
R849	24366472	CF, 4700 ohm
R850	24545109	FR, 1 ohm, 1/4W
R851	24545109	FR, 1 ohm, 1/4W
⚠R861	24569229	Cement, 2.2 ohm, 10W
R862	24384223	OMF, 22k ohm, 3W
R863	24383180	OMF, 18 ohm, 2W
R864	24366101	CF, 100 ohm
R865	24323518	OMF, 0.51 ohm, 2W
R866	24552102	OMF, 1k ohm, 1/2W
R867	24321568	MF, 0.56 ohm, 1/2W
R868	24552103	OMF, 10k ohm, 1/2W
R869	24366272	CF, 2700 ohm
R870	24366122	CF, 1200 ohm
R871	24366272	CF, 2700 ohm
R872	24366392	CF, 3900 ohm
R879	24366102	CF, 1k ohm
R882	24366472	CF, 4700 ohm
R883	24366472	CF, 4700 ohm
R884	24366472	CF, 4700 ohm
R885	24366472	CF, 4700 ohm
R886	24366472	CF, 4700 ohm
R887	24552162	OMF, 1600 ohm, 1/2W
R889	24366102	CF, 1k ohm
R890	24382333	OMF, 33k ohm, 1W
R892	24552471	OMF, 470 ohm, 1/2W
R893	24552561	OMF, 560 ohm, 1/2W
R894	24366562	CF, 5600 ohm
R895	24531120	FR, 12 ohm, 1/2W
R896	24366102	CF, 1k ohm
R897	24366101	CF, 100 ohm
R898	24366681	CF, 680 ohm
⚠R899	24005007	Metal-Glazed Resistor, 8.2M ohm, 1W
R901	24366101	CF, 100 ohm
R902	24366101	CF, 100 ohm
R903	24942102	CC, 1000pF, 1/2W

Location No.	Part No.	Description
R904	24366102	CF, 1k ohm
R905	24366151	CF, 150 ohm
R906	24366471	CF, 470 ohm
R907	24327131	MF, 130 ohm, ±1%, 1/4W
R908	24366430	CF, 43 ohm
R909	24366300	CF, 30 ohm
R911	24366101	CF, 100 ohm
R912	24366101	CF, 100 ohm
R913	24942102	CC, 1000pF, 1/2W
R914	24366102	CF, 1k ohm
R915	24366121	CF, 120 ohm
R916	24366471	CF, 470 ohm
R917	24327131	MF, 130 ohm, ±1%, 1/4W
R918	24366430	CF, 43 ohm
R919	24366300	CF, 30 ohm
R921	24366101	CF, 100 ohm
R922	24366101	CF, 100 ohm
R923	24942102	CC, 1000pF, 1/2W
R924	24366102	CF, 1k ohm
R925	24366151	CF, 150 ohm
R926	24366471	CF, 470 ohm
R927	24327270	MF, 27 ohm, ±1%, 1/4W
R928	24366430	CF, 43 ohm
R929	24366300	CF, 30 ohm
R931	24555153	OMF, 15k ohm, 3W
R932	24555153	OMF, 15k ohm, 3W
R933	24000945	FR, 1.8 ohm, 2W
R934	24942121	CC, 120 ohm, 1/2W
R935	24366150	CF, 15 ohm
R941	24555153	OMF, 15k ohm, 3W
R942	24555153	OMF, 15k ohm, 3W
R943	24366103	CF, 10k ohm
R944	24366120	CF, 12 ohm
R945	24366101	CF, 100 ohm
R951	24555153	OMF, 15k ohm, 3W
R952	24555153	OMF, 15k ohm, 3W
R953	24366390	CF, 39 ohm
R954	24366221	CF, 220 ohm
R955	24366151	CF, 150 ohm
R957	24366821	CF, 820 ohm
R961	24366821	CF, 820 ohm
R962	24366391	CF, 390 ohm
R963	24366222	CF, 2200 ohm
R964	24366332	CF, 3300 ohm
R965	24366471	CF, 470 ohm
R966	24366821	CF, 820 ohm
R967	24366122	CF, 1200 ohm
R968	24366101	CF, 100 ohm
R969	24366103	CF, 10k ohm
R970	24366222	CF, 2200 ohm
R971	24367152	CF, 1500 ohm, ±2%
R972	24367471	CF, 470 ohm, ±2%
R973	24367681	CF, 680 ohm, ±2%
R974	24367681	CF, 680 ohm, ±2%
R975	24366242	CF, 2400 ohm
R976	24367682	CF, 560 ohm, ±2%
R977	24367152	CF, 1500 ohm, ±2%
R978	24367681	CF, 680 ohm, ±2%
R7707	24366472	CF, 4700 ohm
R7708	24366472	CF, 4700 ohm
⚠R7710	24555680	OMF, 68 ohm, 3W
⚠R7711	24323229	MF, 2.2 ohm, 2W
R7712	24366472	CF, 4700 ohm
R7713	24366472	CF, 4700 ohm

Location No.	Part No.	Description
⚠R7715	24555680	OMF, 68 ohm, 3W
⚠R7716	24323229	MF, 2.2 ohm, 2W
R7717	24366472	CF, 4700 ohm
R7718	24366472	CF, 4700 ohm
⚠R7720	24555680	OMF, 68 ohm, 3W
⚠R7721	24323229	MF, 2.2 ohm, 2W
R7722	24366472	CF, 4700 ohm
R7723	24366472	CF, 4700 ohm
⚠R7725	24555680	OMF, 68 ohm, 3W
⚠R7726	24323229	MF, 2.2 ohm, 2W
R7727	24366472	CF, 4700 ohm
R7728	24366472	CF, 4700 ohm
⚠R7730	24555680	OMF, 68 ohm, 3W
⚠R7731	24323229	MF, 2.2 ohm, 2W
R7732	24366472	CF, 4700 ohm
R7733	24366472	CF, 4700 ohm
⚠R7735	24555680	OMF, 68 ohm, 3W
⚠R7736	24323229	MF, 2.2 ohm, 2W
R7738	24554101	OMF, 100 ohm, 2W
R7741	24366102	CF, 1k ohm
R7742	24366332	CF, 3300 ohm
R7743	24366223	CF, 22k ohm
R7744	24366222	CF, 2200 ohm
R7745	24366332	CF, 3300 ohm
R7746	24366223	CF, 22k ohm
R7747	24366222	CF, 2200 ohm
R7749	24366331	CF, 330 ohm
⚠R7750	24323278	MF, 0.27 ohm, 2W
R7751	24366471	CF, 470 ohm
R7757	24366223	CF, 22k ohm
R7758	24366222	CF, 2200 ohm
R7763	24366471	CF, 470 ohm
R7764	24366331	CF, 330 ohm
⚠R7765	24339398	MF, 0.39 ohm, 2W
R7766	24366223	CF, 22k ohm
R7767	24366223	CF, 22k ohm
R7768	24366102	CF, 1k ohm
R7771	24366102	CF, 1k ohm
R7772	24366102	CF, 1k ohm
R7774	24554151	OMF, 10k ohm, 2W
R7775	24366273	CF, 27k ohm
R7776	24366472	CF, 4700 ohm
R7777	24366273	CF, 27k ohm
R7778	24366472	CF, 4700 ohm
R7779	24366102	CF, 1k ohm
R7780	24366102	CF, 1k ohm
R7781	24366333	CF, 33k ohm
⚠R7782	24339828	OMF, 0.82 ohm, 2W
R7783	24366331	CF, 330 ohm
R7784	24366471	CF, 470 ohm
R7785	24366222	CF, 2200 ohm
R7786	24366103	CF, 10k ohm
R7787	24366104	CF, 100k ohm
R7788	24366103	CF, 10k ohm
R7789	24366471	CF, 470 ohm
R7790	24552182	OMF, 1800 ohm, 1/2W
R7791	24552681	OMF, 680 ohm, 1/2W
R7792	24366471	CF, 470 ohm
R7793	24366333	CF, 33k ohm
R7794	24366104	CF, 100k ohm
R7795	24366104	CF, 100k ohm
R7796	24366334	CF, 330k ohm
R7801	24366472	CF, 4700 ohm
R7802	24366103	CF, 10k ohm

Location No.	Part No.	Description
R7803	24366102	CF, 1k ohm
R7804	24366103	CF, 10k ohm
RA02	24366272	CF, 2700 ohm
RA03	24366102	CF, 1k ohm
RA04	24366102	CF, 1k ohm
RA05	24366102	CF, 1k ohm
RA07	24366102	CF, 1k ohm
RA08	24366102	CF, 1k ohm
RA13	24366123	CF, 12k ohm
RA16	24366102	CF, 1k ohm
RA17	24366102	CF, 1k ohm
RA18	24366102	CF, 1k ohm
RA22	24366331	CF, 330 ohm
RA23	24366331	CF, 330 ohm
RA24	24366331	CF, 330 ohm
RA25	24366101	CF, 100 ohm
RA26	24366102	CF, 1k ohm
RA27	24366102	CF, 1k ohm
RA33	24366103	CF, 10k ohm
RA35	24366102	CF, 1k ohm
RA36	24366472	CF, 4700 ohm
RA37	24366101	CF, 100 ohm
RA38	24366101	CF, 100 ohm
RA40	24366331	CF, 330 ohm
RA41	24366331	CF, 330 ohm
RA61	24366103	CF, 10k ohm
RA62	24366103	CF, 10k ohm
RA67	24366472	CF, 4700 ohm
RA68	24366472	CF, 4700 ohm
RA70	24366333	CF, 33k ohm
RA71	24366683	CF, 68k ohm
RA72	24366223	CF, 22k ohm
RA73	24366103	CF, 10k ohm
RA75	24366333	CF, 33k ohm
RA76(U901)	24366102	CF, 1k ohm
RA76(U026)	24366103	CF, 10k ohm
RA77	24366223	CF, 22k ohm
RA79	24366332	CF, 3300 ohm
RA80	24366332	CF, 3300 ohm
RA85	24366101	CF, 100 ohm
RA86	24366101	CF, 100 ohm
RA87	24366102	CF, 1k ohm
RB01	24366271	CF, 270 ohm
RB02	24366221	CF, 220 ohm
RB03	24366101	CF, 100 ohm
RB04	24366223	CF, 22k ohm
RB09	24366470	CF, 47 ohm
RB11	24366103	CF, 10k ohm
RB20	24366823	CF, 82k ohm
RB30	24366103	CF, 10k ohm
RB40	24366103	CF, 10k ohm
RB41	24366821	CF, 820 ohm
RB42	24366153	CF, 15k ohm
RB43	24366103	CF, 10k ohm
RB44	24366103	CF, 10k ohm
RB45	24366101	CF, 100 ohm
RB61	24366473	CF, 47k ohm
RB62	24366222	CF, 2200 ohm
RB63	24366473	CF, 47k ohm
RB64	24366473	CF, 47k ohm
RB65	24366104	CF, 100k ohm
RB66	24366222	CF, 2200 ohm
RB67	24366473	CF, 47k ohm
RB68	24366103	CF, 10k ohm

Location No.	Part No.	Description
RB69	24366332	CF, 3300 ohm
RB70	24366562	CF, 5600 ohm
RB71	24366473	CF, 47k ohm
RB72	24366223	CF, 22k ohm
RB90	24366472	CF, 4700 ohm
RB91	24366472	CF, 4700 ohm
RB92	24366101	CF, 100 ohm
RB93	24366101	CF, 100 ohm
RB94	24366472	CF, 4700 ohm
RB95	24366101	CF, 100 ohm
RB96	24366101	CF, 100 ohm
RB97	24366472	CF, 4700 ohm
RB98	24366101	CF, 100 ohm
RD80	24366822	CF, 8200 ohm
RD82	24366472	CF, 4700 ohm
RD83	24366102	CF, 1k ohm
RG01	24366223	CF, 22k ohm
RG02	24366223	CF, 22k ohm
RG03	24366101	CF, 100 ohm
RG04	24366101	CF, 100 ohm
RG09	24366472	CF, 4700 ohm
RG10	24366822	CF, 8200 ohm
RG11	24366472	CF, 4700 ohm
RG12	24366822	CF, 8200 ohm
RQ01	24366102	CF, 1k ohm
RQ02	24366475	CF, 4.7M ohm
RQ03	24366102	CF, 1k ohm
RQ04	24366511	CF, 510 ohm
RQ05	24366471	CF, 470 ohm
RQ06	24366471	CF, 470 ohm
RQ07	24366103	CF, 10k ohm
RQ08	24366102	CF, 1k ohm
RQ09	24366102	CF, 1k ohm
RQ10	24366102	CF, 1k ohm
RQ11	24366561	CF, 560 ohm
RQ12	24366561	CF, 560 ohm
RQ13	24366103	CF, 10k ohm
RQ14	24366243	CF, 24k ohm
RR01	24366472	CF, 4700 ohm
RR02	24366472	CF, 4700 ohm
RR03	24366472	CF, 4700 ohm
RR12	24366223	CF, 22k ohm
RR17	24366102	CF, 1k ohm
RR18	24366102	CF, 1k ohm
RR21	24366103	CF, 10k ohm
RR22	24366473	CF, 47k ohm
RR23	24366101	CF, 100 ohm
RR24	24366101	CF, 100 ohm
RR25	24366101	CF, 100 ohm
RR26	24366101	CF, 100 ohm
RR27	24366473	CF, 47k ohm
RR28	24366473	CF, 47k ohm
RR29	24366473	CF, 47k ohm
RR30	24366512	CF, 5100 ohm
RR31	24366391	CF, 390 ohm
RR33	24366821	CF, 820 ohm
RR34	24366821	CF, 820 ohm
RR35	24366821	CF, 820 ohm
RR36	24366332	CF, 3300 ohm
RR37	24366332	CF, 3300 ohm
RR38	24366332	CF, 3300 ohm
RR39	24366222	CF, 2200 ohm
RR40(UM01)	24366683	CF, 68k ohm
RR40(U901)	24366122	CF, 1200 ohm

Location No.	Part No.	Description
RR41(UM01)	24366103	CF, 10k ohm
RR41(U901)	24366272	CF, 2700 ohm
RR42	24366122	CF, 1200 ohm
RR43	24366272	CF, 2700 ohm
RR44	24366122	CF, 1200 ohm
RR45	24366272	CF, 2700 ohm
RR94	24366222	CF, 2200 ohm
RR95	24366331	CF, 330 ohm
RR96	24366331	CF, 330 ohm
RR97	24366331	CF, 330 ohm
RR98	24366331	CF, 330 ohm
RR99	24366102	CF, 1k ohm
RR100	24366102	CF, 1k ohm
RR101	24366102	CF, 1k ohm
RR102	24366102	CF, 1k ohm
RS01	24366101	CF, 100 ohm
RS03	24366101	CF, 100 ohm
RS04	24366101	CF, 100 ohm
RS05	24366102	CF, 1k ohm
RS07	24366472	CF, 4700 ohm
RS08	24366472	CF, 4700 ohm
RS09	24366472	CF, 4700 ohm
RS10	24366472	CF, 4700 ohm
RS11	24366472	CF, 4700 ohm
RS12	24366472	CF, 4700 ohm
RS13	24366101	CF, 100 ohm
RS14	24366101	CF, 100 ohm
RS25	24366103	CF, 10k ohm
RS26	24366103	CF, 10k ohm
RS27	24366561	CF, 560 ohm
RS28	24366561	CF, 560 ohm
RS29	24366103	CF, 10k ohm
RS30	24366103	CF, 10k ohm
RS31	24366102	CF, 1k ohm
RS32	24366103	CF, 10k ohm
RS33	24366101	CF, 100 ohm
RS34	24366102	CF, 1k ohm
RS35	24366101	CF, 100 ohm
RS36	24366102	CF, 1k ohm
RS45	24366393	CF, 39k ohm
RS46	24366393	CF, 39k ohm
RS601	24366101	CF, 100 ohm
RS602	24366101	CF, 100 ohm
RS603	24366102	CF, 1k ohm
RS604	24366102	CF, 1k ohm
RS605	24366561	CF, 560 ohm
RS606	24366561	CF, 560 ohm
RS607	24366104	CF, 100k ohm
RS608	24366104	CF, 100k ohm
RS609	24366103	CF, 10k ohm
RS610	24366103	CF, 10k ohm
RS611	24366103	CF, 10k ohm
RS612	24366104	CF, 100k ohm
RT01	24366332	CF, 3300 ohm
RT02	24366100	CF, 10 ohm
RT03	24366101	CF, 100 ohm
RT04	24366273	CF, 27k ohm
RT05	24366103	CF, 10k ohm
RT06	24366103	CF, 10k ohm
RT07	24366102	CF, 1k ohm
RT08	24366103	CF, 10k ohm
RT09	24366101	CF, 100 ohm
RT10	24366472	CF, 4700 ohm
RT11	24366392	CF, 3900 ohm

Location No.	Part No.	Description
RT12	24366682	CF, 6800 ohm
RT13	24366103	CF, 10k ohm
RT14	24366222	CF, 2200 ohm
RT15	24366101	CF, 100 ohm
RT16	24366101	CF, 100 ohm
RT17	24366102	CF, 1k ohm
RT18	24366152	CF, 1500 ohm
RT19	24366122	CF, 1200 ohm
RT20	24366471	CF, 470 ohm
RT21	24366561	CF, 560 ohm
RT22	24366271	CF, 270 ohm
RT23	24366821	CF, 820 ohm
RV01	24366101	CF, 100 ohm
RV02	24366101	CF, 100 ohm
RV03	24366101	CF, 100 ohm
RV04	24366101	CF, 100 ohm
RV05	24366101	CF, 100 ohm
RV06	24366101	CF, 100 ohm
RV09	24366101	CF, 100 ohm
RV10	24366101	CF, 100 ohm
RV11	24366101	CF, 100 ohm
RV12	24366101	CF, 100 ohm
RV13	24366101	CF, 100 ohm
RV14	24366101	CF, 100 ohm
RV15	24366101	CF, 100 ohm
RV16	24366101	CF, 100 ohm
RV17	24366101	CF, 100 ohm
RV19	24366101	CF, 100 ohm
RV20	24366332	CF, 3300 ohm
RV35	24366103	CF, 10k ohm
RV37	24366750	CF, 75 ohm
RV40	24366822	CF, 8200 ohm
RV41	24366472	CF, 4700 ohm
RV42	24366471	CF, 470 ohm
RV43	24366471	CF, 470 ohm
RV44	24366821	CF, 820 ohm
RV45	24366151	CF, 150 ohm
RV46	24366102	CF, 1k ohm
RV47	24366102	CF, 1k ohm
RV48	24366911	CF, 910 ohm
RV49	24366102	CF, 1k ohm
RV50	24366682	CF, 6800 ohm
RV51	24366822	CF, 8200 ohm
RV52	24366101	CF, 100 ohm
RV53	24366471	CF, 470 ohm
RV54	24366471	CF, 470 ohm
RV56	24366511	CF, 510 ohm
RV57	24366102	CF, 1k ohm
RV58	24366911	CF, 910 ohm
RV59	24366102	CF, 1k ohm
RV60	24366682	CF, 6800 ohm
RV61	24366750	CF, 75 ohm
RV65	24366103	CF, 10k ohm
RV67	24366750	CF, 75 ohm
RV68	24366103	CF, 10k ohm
RV70	24366750	CF, 75 ohm
RV75	24366750	CF, 75 ohm
RV77	24366101	CF, 100 ohm
RV78	24366181	CF, 180 ohm
RV80	24366682	CF, 6800 ohm
RV84	24366101	CF, 100 ohm
RV85	24366201	CF, 200 ohm
RV89	24366750	CF, 75 ohm
RV91	24552101	OMF, 100 ohm, 1/2W

Location No.	Part No.	Description
RV95	24366471	CF, 470 ohm
RV100	24366101	CF, 100 ohm
RV101	24366272	CF, 2700 ohm
RV102	24366271	CF, 270 ohm
RV103	24366473	CF, 47k ohm
RV104	24366100	CF, 10 ohm
RV105	24366272	CF, 2700 ohm
RV106	24366223	CF, 22k ohm
RV107	24366223	CF, 22k ohm
RV108	24366103	CF, 10k ohm
RV109	24366103	CF, 10k ohm
RV110	24366123	CF, 12k ohm
RV111	24366103	CF, 10k ohm
RW02	24366222	CF, 2200 ohm
RW09	24366563	CF, 56k ohm
RW13	24366393	CF, 39k ohm
RW14	24652121	OMF, 120 ohm, 1/2W
RW15	24366223	CF, 22k ohm
RW16	24366273	CF, 27k ohm
RW17	24366333	CF, 33k ohm
RW18	24366222	CF, 2200 ohm
RW19	24366392	CF, 3900 ohm
RW20	24366392	CF, 3900 ohm
RW21	24366102	CF, 1k ohm
RW22	24652471	OMF, 470 ohm, 1/2W
RW23	24366471	CF, 470 ohm
RW24	24366470	CF, 47 ohm
RW25	24366182	CF, 1800 ohm
RW30	24652100	OMF, 10 ohm, 1/2W
RW31	24652331	OMF, 330 ohm, 1/2W
RW32	24366820	CF, 82 ohm
RW33	24366683	CF, 68k ohm
RW34	24366820	CF, 82 ohm
RW35	24366683	CF, 68k ohm
RW36	24652620	OMF, 62 ohm, 1/2W
RW37	24366152	CF, 1500 ohm
RW38	24366123	CF, 12k ohm
RW39	24366152	CF, 1500 ohm
RW40	24652620	OMF, 62 ohm, 1/2W
RW41	24321279	MF, 2.7 ohm, 1/2W
RW42	24321279	MF, 2.7 ohm, 1/2W
RW43	24654221	OMF, 220 ohm, 2W
RW44	24366122	CF, 1200 ohm
RW45	24366122	CF, 1200 ohm
RY604	24366123	CF, 12k ohm
RY605	24366682	CF, 6800 ohm
RY606	24366333	CF, 33k ohm
RY607	24366392	CF, 3900 ohm
RY608	24366123	CF, 12k ohm
RY609	24366102	CF, 1k ohm
RY610	24366104	CF, 100k ohm
RY611	24366473	CF, 47k ohm
RY612	24366102	CF, 1k ohm
RY613	24382121	OMF, 120 ohm, 1W
RY614	24366103	CF, 10k ohm
RY615	24366223	CF, 22k ohm
RY616	24366104	CF, 100k ohm
RY617	24366183	CF, 18k ohm
RY631	24366100	CF, 10 ohm
RY632	24366100	CF, 10 ohm
RZ01	24366471	CF, 470 ohm
RZ02	24366152	CF, 1500 ohm
RZ04	24366332	CF, 3300 ohm
RZ05	24366332	CF, 3300 ohm

Location No.	Part No.	Description
RZ06	24366821	CF, 820 ohm
RZ07	24366822	CF, 8200 ohm
RZ08	24366332	CF, 3300 ohm
RZ12	24366471	CF, 470 ohm
RZ14	24366123	CF, 12k ohm
RZ15	24366392	CF, 3900 ohm
RZ16	24366122	CF, 1200 ohm
RZ17	24366331	CF, 330 ohm
RZ18	24366821	CF, 820 ohm
RZ19	24366471	CF, 470 ohm
RZ20	24366122	CF, 1200 ohm
RZ22	24366101	CF, 100 ohm
RZ23	24366821	CF, 820 ohm
RZ24	24366821	CF, 820 ohm
RZ25	24366101	CF, 100 ohm
RZ26	24366101	CF, 100 ohm
RZ28	24366564	CF, 560k ohm
RZ29	24366331	CF, 330 ohm
RZ30	24366331	CF, 330 ohm
RZ31	24366102	CF, 1k ohm

COILS & TRANSFORMERS

L101	23289101	Coil, Peaking, TRF4101AF
L102	23289100	Coil, Peaking, TRF4100AF
L103	23289100	Coil, Peaking, TRF4100AF
L111	23237999	Coil, Peaking, TRF4109AC
L112	23237999	Coil, Peaking, TRF4109AC
L115	23103824	Coil, TEM2028K
L117	23237983	Coil, Peaking, TRF4220AC
L301	23103859	Coil (Ferrite Bead), TEM2011
L303	23237975	Coil, Peaking, TRF4101AC
L400	23289100	Coil, Peaking, TRF4100AF
L401	23221746	Coil, Choke, TLN3155D
L402	23289220	Coil, Peaking, TRF4220AF
L441	23233947	Coil, Linearity, TLN2144G
L450	23233961	Coil, Width, TLN2184
L461	23248115	Coil, Choke, TLN3367D
⚠L462	23231135	Deflection Yoke, TDY707AS(R)
⚠L463	23231136	Deflection Yoke, TDY707AS(G)
L463(U401)	23103880	Coil (Ferrite Bead), TEM2011Y
⚠L464	23231137	Deflection Yoke, TDY707AS(B)
L472	23102445	Magnet, MAG-1096
L473	23102445	Magnet, MAG-1096
L474	23102445	Magnet, MAG-1096
L501	23289470	Coil, Peaking, TRF4470AF
L502	23289470	Coil, Peaking, TRF4470AF
L503	23289470	Coil, Peaking, TRF4470AF
L701	23238562	Coil, Peaking, TRF4109AJ
L702	23238562	Coil, Peaking, TRF4109AJ
L707	23238562	Coil, Peaking, TRF4109AJ
L708	23238562	Coil, Peaking, TRF4109AJ
L709	23238562	Coil, Peaking, TRF4109AJ
L710	23238562	Coil, Peaking, TRF4109AJ
L711	23238562	Coil, Peaking, TRF4109AJ
L712	23238562	Coil, Peaking, TRF4109AJ
L713	23238562	Coil, Peaking, TRF4109AJ
L714	23238562	Coil, Peaking, TRF4109AJ
L719	23232878	Coil, Variable, TRF3503K
L720	23289102	Coil, Peaking, TRF4102AJ
L721	23237805	Coil, Peaking, TRF4222
L722	23289102	Coil, Peaking, TRF4102AJ
L723	23237805	Coil, Peaking, TRF4222
L724	23289102	Coil, Peaking, TRF4102AJ
L725	23237805	Coil, Peaking, TRF4222

Location No.	Part No.	Description
L726	23289102	Coil, Peaking, TRF4102AJ
L727	23237805	Coil, Peaking, TRF4222
L728	23289102	Coil, Peaking, TRF4102AJ
L729	23237805	Coil, Peaking, TRF4222
L730	23289102	Coil, Peaking, TRF4102AJ
L731	23237805	Coil, Peaking, TRF4222
L737	23289560	Coil, Peaking, TRF4560
L738	23289560	Coil, Peaking, TRF4560
L739	23289560	Coil, Peaking, TRF4560
L740	23289560	Coil, Peaking, TRF4560
L742	23103866	Chip (Ferrite Bead), TEM2105T
L743	23103866	Chip (Ferrite Bead), TEM2105T
L744	23103866	Chip (Ferrite Bead), TEM2105T
L745	23103866	Chip (Ferrite Bead), TEM2105T
L746	23103866	Chip (Ferrite Bead), TEM2105T
L747	23103866	Chip (Ferrite Bead), TEM2105T
L748	23103866	Chip (Ferrite Bead), TEM2105T
L749	23103866	Chip (Ferrite Bead), TEM2105T
L811	23103859	Coil (Ferrite Bead), TEM2011
L812	23103859	Coil (Ferrite Bead), TEM2011
L813	23103859	Coil (Ferrite Bead), TEM2011
L814	23221747	Coil, Choke, TRF9253D
L851	23103859	Coil (Ferrite Bead), TEM2011
L852	23103859	Coil (Ferrite Bead), TEM2011
L853	23103859	Coil (Ferrite Bead), TEM2011
L854	23103859	Coil (Ferrite Bead), TEM2011
L855	23103859	Coil (Ferrite Bead), TEM2011
L856	23103859	Coil (Ferrite Bead), TEM2011
L857	23103859	Coil (Ferrite Bead), TEM2011
L858	23103859	Coil (Ferrite Bead), TEM2011
L859	23103859	Coil (Ferrite Bead), TEM2011
L860	23103859	Coil (Ferrite Bead), TEM2011
L870	23238711	Coil, Peaking, TRF4180AJ
L883	23103859	Coil (Ferrite Bead), TEM2011
L885	23248073	Coil, Choke, TLN3299D
L886	23103859	Coil (Ferrite Bead), TEM2011
L889	23248073	Coil, Choke, TLN3312D
L891	23103859	Coil (Ferrite Bead), TEM2011
L896	23103859	Coil (Ferrite Bead), TEM2011
L911	23237987	Coil, Peaking, TRF4100AC
L961	23237987	Coil, Peaking, TRF4100AC
L962	23237991	Coil, Peaking, TRF4479AC
L7701	23103859	Coil (Ferrite Bead), TEM2011
L7702	23103859	Coil (Ferrite Bead), TEM2011
L7703	23103859	Coil (Ferrite Bead), TEM2011
L7704	23103859	Coil (Ferrite Bead), TEM2011
L7705	23103859	Coil (Ferrite Bead), TEM2011
L7706	23103859	Coil (Ferrite Bead), TEM2011
L7707	23103859	Coil (Ferrite Bead), TEM2011
L7708	23103859	Coil (Ferrite Bead), TEM2011
LA01	23289100	Coil, Peaking, TRF4100AF
LB01	23262996	Coil, IF, TRF1169D
LQ01	23238709	Coil, Peaking, TRF4270AJ
LQ02	23238718	Coil, Peaking, TRF4479AJ
LQ03	23238718	Coil, Peaking, TRF4479AJ
LQ04	23238718	Coil, Peaking, TRF4479AJ
LT01	23289339	Coil, Peaking, TRF43R3AF
LT02	23238562	Coil, Peaking, TRF4109AJ
LT03	23289150	Coil, Peaking, TRF4150AF
LT04	23238714	Coil, Peaking, TRF4100AJ
LT05	23238714	Coil, Peaking, TRF4100AJ
LT06	23238714	Coil, Peaking, TRF4100AJ
LT07	23238714	Coil, Peaking, TRF4100AJ
LT08	23103859	Coil (Ferrite Bead), TEM2011

Location No.	Part No.	Description
LT09	23238714	Coil, Peaking, TRF4100AJ
LT10	23238506	Coil, Peaking, TRF4229AJ
LT11	23238714	Coil, Peaking, TRF4100AJ
LT12	23238506	Coil, Peaking, TRF4229AJ
LT13	23238506	Coil, Peaking, TRF4229AJ
LT15	23238710	Coil, Peaking, TRF4220AJ
LV01	23103819	Coil, Choke, TEM2015
LV02	23103819	Coil, Choke, TEM2015
LV40	23238709	Coil, Peaking, TRF4270AJ
LV41	23289270	Coil, Peaking, TRF4270AF
LV44	23238705	Coil, Peaking, TRF4560AJ
LV45	23289150	Coil, Peaking, TRF4150AF
LV47(U027)	23238705	Coil, Peaking, TRF4560AJ
LV47(UV01)	23289100	Coil, Peaking, TRF4100AF
LV48	23289100	Coil, Peaking, TRF4100AF
LV49	23289100	Coil, Peaking, TRF4100AF
LV50	23237983	Coil, Peaking, TRF4220AC
LW02	23261974	Coil, Choke, HC5-035
LW04	23103859	Coil (Ferrite Bead), TEM2011
LW05	23103859	Coil (Ferrite Bead), TEM2011
LY01	23289100	Coil, Peaking, TRF4100AF
LZ01	23238712	Coil, Peaking, TRF4150AJ
LZ02	23238716	Coil, Peaking, TRF4689AJ
LZ03	23238716	Coil, Peaking, TRF4689AJ
LZ04	23238709	Coil, Peaking, TRF4270AJ
LZ05	23238716	Coil, Peaking, TRF4689AJ
LZ06	23238709	Coil, Peaking, TRF4270AJ
LZ07	23238709	Coil, Peaking, TRF4270AJ
LZ08	23238707	Coil, Peaking, TRF4390AJ
LZ09	70131060	Filter, ZBF253D-00
LZ10	70131060	Filter, ZBF253D-00
LZ11	23238709	Coil, Peaking, TRF4270AJ
⚠T400	23224346	Transformer, Focus, TLN2168
⚠T401	23224336	Transformer, Horiz. Drive, TLN1083
⚠T461A	23192917	Cable, Anode
⚠T461B	23960136	Silicon, TSE3843W
⚠T461Z	23236508	Transformer, Flyback, TFB3078ZD
⚠T801	23211683	Line Filter, TRF3209AK
⚠T802	23211683	Line Filter, TRF3209AK
⚠T803	23211666	Line Filter, TRF3197
⚠T804	23211002	Line Filter, TRF3173
⚠T805	23211666	Line Filter, TRF3197
⚠T806	23211666	Line Filter, TRF3197
⚠T862	23217325	Transformer, Converter, TPW3345AM
⚠T863	23217326	Transformer, Converter, TPW3346AM

SEMICONDUCTORS

Q201	23114528	Transistor, 2SC1740S-Q
Q202	23114528	Transistor, 2SC1740S-Q
Q203	A6734590	Transistor, 2SC752(G)TM-Y
Q204	23114528	Transistor, 2SC1740S-Q
Q301	23319787	IC, LA7833S
Q302	B0384683	IC, TA8859AP
Q321	A6342206	Transistor, 2SC2878-A(TE
Q322	A6342206	Transistor, 2SC2878-A(TE
Q340	A6317440	Transistor, 2SC1815-Y
Q341	A6534053	Transistor, 2SA1015-Y(TE
Q350	A6317440	Transistor, 2SC1815-Y
Q351	A6534053	Transistor, 2SA1015-Y(TE
Q352	A6002030	Transistor, RN1203

Location No.	Part No.	Description
Q353	A6002030	Transistor, RN1203
Q360	B0350510	IC, TA75458S
Q361	A6367850	Transistor, 2SC3148
Q370	23114530	Transistor, 2SA933S-Q
Q402	A678971D	Transistor, 2SC1569 FA-5
⚠Q404	A6872801	Transistor, 2SD2253(FA)
Q420	23314141	Transistor, 2SC3852
Q421	23114528	Transistor, 2SC1740S-Q
Q430	23314141	Transistor, 2SC3852
Q460	23314850	Transistor, 2SA1788-E
Q461	A6317440	Transistor, 2SC1815-Y
Q462	A6317440	Transistor, 2SC1815-Y
Q463	23114528	Transistor, 2SC1740S-Q
Q464	A6534053	Transistor, 2SA1015-Y(TE
Q470	23114528	Transistor, 2SC1740S-Q
⚠Q480	23314246	Transistor, 2SC2023 LF-4
Q483	B0350510	IC, TA75458S
Q487	A6317440	Transistor, 2SC1815-Y
Q488	A6002040	Transistor, RN1204
Q489	A6012020	Transistor, RN2202
Q501	B0385673	IC, TA1222AN
Q502	23114528	Transistor, 2SC1740S-Q
Q503	23114528	Transistor, 2SC1740S-Q
Q601	23318413	IC, LA4282
Q612	23114530	Transistor, 2SA933S-Q
Q681	A6342206	Transistor, 2SC2878-A(TE
Q682	A6342206	Transistor, 2SC2878-A(TE
Q701	B0588212	IC, T7K64
Q703	23905014	IC, LC78816M
Q704	23905014	IC, LC78816M
Q705	23905014	IC, LC78816M
Q707	B0379550	IC, TA8667P
Q709	A6734590	Transistor, 2SC752(G)TM-Y
Q710	23314204	Transistor, 2SC2412K,Q
Q713	23905012	IC, CAT24C16
Q715	23319808	IC, M5218AP
Q717	23319808	IC, M5218AP
Q719	23319808	IC, M5218AP
⚠Q751	23905094	IC, STK392-110
⚠Q752	23905094	IC, STK392-110
Q754	23319199	IC, MC7805CT
Q755	23904844	IC, MCT7809BT
Q759	23318841	IC, AN79M09F
Q757	23114528	Transistor, 2SC1740S-Q
Q758	23114528	Transistor, 2SC1740S-Q
Q759	23114530	Transistor, 2SA933S-Q
Q761	23114530	Transistor, 2SA933S-Q
Q762	23114528	Transistor, 2SC1740S-Q
Q764	B0487575	IC, TC74HC4050AP
Q765	23114528	Transistor, 2SC1740S-Q
Q767	B0470662	IC, TC4066BP
Q766	23114528	Transistor, 2SC1740S-Q
Q768	23114530	Transistor, 2SA933S-Q
Q769	23114528	Transistor, 2SC1740S-Q
Q770	23114530	Transistor, 2SA933S-Q
Q771	A6533730	Transistor, 2SA1012-Y
Q780	23114530	Transistor, 2SA933S-Q
Q781	23114528	Transistor, 2SC1740S-Q
Q782	23114528	Transistor, 2SC1740S-Q
⚠Q801	23905084	IC, STR-S6709
Q802	23314141	Transistor, 2SC3852
⚠Q803	23904247	IC, STR-S6708
Q804	23314141	Transistor, 2SC3852
Q826	A8645166	Photo Coupler, TLP721F(D4-G

Location No.	Part No.	Description
⚠Q828	A8645166	Photo Coupler, TLP721F(D4-G
Q829	A6534053	Transistor, 2SA1015-Y(TE
Q831	23904841	IC, MCT7805BT
Q832	23904274	IC, PQ09RF11
Q835	23319941	IC, SI-3050C
Q836	A6317440	Transistor, 2SC1815-Y
Q837	A6317440	Transistor, 2SC1815-Y
Q845	A6002050	Transistor, RN1205
Q848	A6317440	Transistor, 2SC1815-Y
Q850(U801)	A6317440	Transistor, 2SC1815-Y
Q850(U401)	A6534053	Transistor, 2SA1015-Y(TE
Q851	23905251	IC, SE024N
Q852	23318299	IC, L78MR05
Q855	23114528	Transistor, 2SC1740S-Q
Q857	A6317440	Transistor, 2SC1815-Y
Q858	A6002050	Transistor, RN1205
Q859	A6317440	Transistor, 2SC1815-Y
Q860	A6000050	Transistor, RN1005
Q901	23314811	Transistor, 2SC5147
Q902	A6734590	Transistor, 2SC752(G)TM-Y
Q911	23314811	Transistor, 2SC5147
Q913	A6734590	Transistor, 2SC752(G)TM-Y
Q914	A6321265	Transistor, 2SC2120-Y(TE)
Q921	23314811	Transistor, 2SC5147
Q922	A6734590	Transistor, 2SC752(G)TM-Y
Q923	A6734590	Transistor, 2SC752(G)TM-Y
Q961	23114528	Transistor, 2SC1740S-Q
Q962	A6509154	Transistor, 2SA662TM-Y(T)
Q963	A6317440	Transistor, 2SC1815-Y
Q964	A6534053	Transistor, 2SA1015-Y(TE
Q965	A6317440	Transistor, 2SC1815-Y
Q966	A6534053	Transistor, 2SA1015-Y(TE
QA01	23905243	IC, TMP87CP38N-3230
QA02	23904666	IC, NM24C08EN
QB01	23114528	Transistor, 2SC1740S-Q
QB02	23114530	Transistor, 2SA933S-Q
QB03	A6002050	Transistor, RN1205
QB30	23114528	Transistor, 2SC1740S-Q
QB61	A6002040	Transistor, RN1204
QB62	A6002040	Transistor, RN1204
QB63	A6012030	Transistor, RN2203
QB64	23114528	Transistor, 2SC1740S-Q
QB65	23114528	Transistor, 2SC1740S-Q
QB66	A6002040	Transistor, RN1204
QB67	A6734590	Transistor, 2SC752(G)TM-Y
QB90	23904921	IC, JLC1563P
QB91	23904659	IC, UPD74HC32C
QD80	23114530	Transistor, 2SA933S-Q
QG01	B0385640	IC, TA1216N
QQ01	B0385755	IC, TA1229N
QQ02	B0383881	IC, TA8772AN
QQ03	23114528	Transistor, 2SC1740S-Q
QQ04	23114528	Transistor, 2SC1740S-Q
QR01	B0487584	IC, TC74HC4053AP
QR04	A6534053	Transistor, 2SA1015-Y(TE
QR05	A6534053	Transistor, 2SA1015-Y(TE
QR06	A6534053	Transistor, 2SA1015-Y(TE
QR15	A6534053	Transistor, 2SA1015-Y(TE
QR17	A6317440	Transistor, 2SC1815-Y
QR18	A6734590	Transistor, 2SC752(G)TM-Y
QR19	A6734590	Transistor, 2SC752(G)TM-Y
QR20	A6317440	Transistor, 2SC1815-Y
QR21	A6317440	Transistor, 2SC1815-Y
QR22	A6317440	Transistor, 2SC1815-Y

Location No.	Part No.	Description
QS01	A6342206	Transistor, 2SC2878-A(TE
QS02	A6342206	Transistor, 2SC2878-A(TE
QS03	A6010040	Transistor, RN2004
QS04	23114528	Transistor, 2SC1740S-Q
QS05	23114528	Transistor, 2SC1740S-Q
QS601	23114528	Transistor, 2SC1740S-Q
QS602	23114528	Transistor, 2SC1740S-Q
QS603	A6342206	Transistor, 2SC2878-A(TE
QS604	A6342206	Transistor, 2SC2878-A(TE
QS605	A6010040	Transistor, RN2004
QT01	23904899	IC, SAA5281ZP/E
QT02	A6317440	Transistor, 2SC1815-Y
QT03	A6317440	Transistor, 2SC1815-Y
QT04	A6534053	Transistor, 2SA1015-Y(TE
QT05	A6317440	Transistor, 2SC1815-Y
QT06	A6534053	Transistor, 2SA1015-Y(TE
QV01	B0385650	IC, TA1218N
QV03	A6002030	Transistor, RN1203
QV05	A6002030	Transistor, RN1203
QV10	23114528	Transistor, 2SC1740S-Q
QV13	23114528	Transistor, 2SC1740S-Q
QV40	23114528	Transistor, 2SC1740S-Q
QV41	23114528	Transistor, 2SC1740S-Q
QV42	23114530	Transistor, 2SA933S-Q
QV43	A6534053	Transistor, 2SA1015-Y(TE
QV44	23114528	Transistor, 2SC1740S-Q
QV45	23114528	Transistor, 2SC1740S-Q
QV46	23114530	Transistor, 2SA933S-Q
QV47	A6534053	Transistor, 2SA1015-Y(TE
QV49	23114528	Transistor, 2SC1740S-Q
QV50	A6534053	Transistor, 2SA1015-Y(TE
QV51	23114528	Transistor, 2SC1740S-Q
QV52	A6342206	Transistor, 2SC2878-A(TE
QW05	A6317440	Transistor, 2SC1815-Y
QW06	A6317440	Transistor, 2SC1815-Y
QW07	A6734590	Transistor, 2SC752(G)TM-Y
QW09	23114528	Transistor, 2SC1740S-Q
QW10	23114530	Transistor, 2SA933S-Q
QW11	23314701	Transistor, 2SA1186A
QW12	23314705	Transistor, 2SD1763A
QW19	A6317440	Transistor, 2SC1815-Y
QW20	A6317440	Transistor, 2SC1815-Y
QY60(U901)	23319251	IC, MC1458P1
QY60(U901)	23318255	IC, UPC1406HA
QY604	A6342206	Transistor, 2SC2878-A(TE
QY605	23114530	Transistor, 2SA933S-Q
QY606	A6010040	Transistor, RN2004
QZ01	B0410687	IC, TC9090N
QZ02	23319504	IC, MM1031XS
QZ03	23114528	Transistor, 2SC1740S-Q
QZ04	23114528	Transistor, 2SC1740S-Q
QZ05	23114528	Transistor, 2SC1740S-Q
QZ06	23114528	Transistor, 2SC1740S-Q
D101	23316411	Diode, 1SS184
D201	23115537	Diode, 1SS131
D215	23115537	Diode, 1SS131
D216	23115537	Diode, 1SS131
D217	23115537	Diode, 1SS131
D218	23115537	Diode, 1SS131
D219	23115537	Diode, 1SS131
D220	23115537	Diode, 1SS131
D221	23316687	Diode, Zener, MTZJ9.1B
D301	23118094	Diode, EU2A
D302	23118094	Diode, EU2A

Location No.	Part No.	Description
D303	23115537	Diode, 1SS131
D308	23118822	Diode, ERB12-02
D309	23118822	Diode, ERB12-02
D312	23115537	Diode, 1SS131
D315	23115537	Diode, 1SS131
D321	23316658	Diode, Zener, MTZJ3.6A
D332	23316794	Diode, SC570A
D340	23115537	Diode, 1SS131
D341	23316675	Diode, Zener, MTZJ6.2B
D350	23115537	Diode, 1SS131
D351	23115537	Diode, 1SS131
D352	23115537	Diode, 1SS131
D353	23316672	Diode, Zener, MTZJ5.6B
D354	23115537	Diode, 1SS131
D360	23316678	Diode, Zener, MTZJ6.8B
D370	23316672	Diode, Zener, MTZJ5.6B
D406	A7978850	Diode, S5295G
D408	A7580658	Diode, 3JH41
D427	23316680	Diode, Zener, MTZJ7.5A
D430	23316670	Diode, Zener, MTZJ5.1C
D431	23115537	Diode, 1SS131
D432	23316670	Diode, Zener, MTZJ5.1C
D441	23316728	Diode, Zener, MTZJ15C
D442	A7568200	Diode, 1SS332
D443	23118338	Diode, RU4AM
D444	23118338	Diode, RU4AM
D445	24382682	OMF, 6800 ohm, 1W
D458	23115774	Diode, Zener, RD6.2E(4)
D459	23115537	Diode, 1SS131
D460	A7568480	Diode, TVR-1G
D461	23316582	Diode, ERC20-06
D463	23115537	Diode, 1SS131
D464	23316718	Diode, Zener, MTZJ12A
D465	23316718	Diode, Zener, MTZJ12A
D467	A7568752	Diode, 1S1887A
D470	23115537	Diode, 1SS131
D471	A7568460	Diode, TVR-1B
D474	23118511	Diode, Zener, RD12ESA B2
D482	23118094	Diode, EU2A
D486	23316742	Diode, Zener, MTZJ24B
D487	23118094	Diode, EU2A
D488	23118859	Diode, 1SS133
D489	23316659	Diode, Zener, MTZJ3.6B
D601	23115537	Diode, 1SS131
D602	23115537	Diode, 1SS131
D603	23115537	Diode, 1SS131
D604	23115537	Diode, 1SS131
D605	23115537	Diode, 1SS131
D606	23115537	Diode, 1SS131
D611	23115537	Diode, 1SS131
D612	23115537	Diode, 1SS131
D613	23115537	Diode, 1SS131
D614	23115537	Diode, 1SS131
D701	23115537	Diode, 1SS131
D702	23115537	Diode, 1SS131
D703	23115537	Diode, 1SS131
D704	23115537	Diode, 1SS131
⚠ D801	23316784	Diode, RBV-1506
D803	23118094	Diode, EU2A
D804	23316315	Diode, Zener, UZ6.8BSB
D805	A7150258	Diode, 1SS176
D806	23118094	Diode, EU2A
D808	23118094	Diode, EU2A
D809	A7270200	Diode, Zener, 1Z6.2

Location No.	Part No.	Description
D810	23118860	Diode, 1SS132
D811	A7150258	Diode, 1SS176
D812	23118451	Diode, RU-4A
D815	23316339	Diode, Zener, UZ15BSB
D816	A7150258	Diode, 1SS176
D817	23316365	Diode, UZ30BSD
D820	A7150258	Diode, 1SS176
D828	A7150258	Diode, 1SS176
D835	A7150258	Diode, 1SS176
D837	23316309	Diode, Zener, UZ5.6BSB
D850	23118173	Diode, RBV-406M-LFA
D852	23118094	Diode, EU2A
D853	23118094	Diode, EU2A
D854	23316309	Diode, Zener, UZ5.6BSB
D855	23316339	Diode, Zener, UZ15BSB
D856	23118094	Diode, EU2A
D857	23118860	Diode, 1SS132
D858	23118094	Diode, EU2A
D859	23316315	Diode, Zener, UZ6.8BSB
D860	23118859	Diode, 1SS133
D861	23316744	Diode, Zener, MTZJ24D
D862	23115537	Diode, 1SS131
D863	23118094	Diode, EU2A
D864	23316475	Diode, FMP-G12S
D865	23316475	Diode, FMP-G12S
D867	23118094	Diode, EU2A
D868	23316475	Diode, FMP-G12S
D869	A7150258	Diode, 1SS176
D870	23118859	Diode, 1SS133
D871	23118859	Diode, 1SS133
D872	23316675	Diode, Zener, MTZJ6.2B
D873	23316315	Diode, Zener, UZ6.8BSB
D874	A7150258	Diode, 1SS176
D875	23316760	Diode, Zener, MTZJ36D
D876	23115537	Diode, 1SS131
D877	A7150258	Diode, 1SS176
D883	23316406	Diode, FML-G16S
D885	23316184	Diode, FML-G12S
D891	23316184	Diode, FML-G12S
D896	23316825	Diode, EU2YX
⚠D899	24000656	Varistor, 470V
D901	23115537	Diode, 1SS131
D902	23115537	Diode, 1SS131
D903	23115537	Diode, 1SS131
D904	23115537	Diode, 1SS131
D911	23115537	Diode, 1SS131
D912	23115537	Diode, 1SS131
D913	23115537	Diode, 1SS131
D914	23115537	Diode, 1SS131
D915	23115537	Diode, 1SS131
D921	23115537	Diode, 1SS131
D922	23115537	Diode, 1SS131
D923	23115537	Diode, 1SS131
D924	23115537	Diode, 1SS131
D925	23115537	Diode, 1SS131
D926	23115537	Diode, 1SS131
D927	23115537	Diode, 1SS131
D961	23115537	Diode, 1SS131
D962	23115537	Diode, 1SS131
D7701	23115537	Diode, 1SS131
D7702	23115532	Diode, ERB12-01
D7705	23115537	Diode, 1SS131
D7706	23115537	Diode, 1SS131
D7707	23115537	Diode, 1SS131

Location No.	Part No.	Description
D7708	23115537	Diode, 1SS131
D7709	23316675	Diode, Zener, MTZJ6.2B
D7710	23316716	Diode, Zener, MTZJ11B
D7711	23316716	Diode, Zener, MTZJ11B
D7712	23115537	Diode, 1SS131
D7713	23115537	Diode, 1SS131
D7717	23316675	Diode, Zener, MTZJ6.2B
D7718	23316675	Diode, Zener, MTZJ6.2B
D7719	23316675	Diode, Zener, MTZJ6.2B
D7720	23316675	Diode, Zener, MTZJ6.2B
D7721	23316675	Diode, Zener, MTZJ6.2B
D7722	23316675	Diode, Zener, MTZJ6.2B
D7801	23115537	Diode, 1SS131
D7802	23115537	Diode, 1SS131
D7803	23115537	Diode, 1SS131
D7804	23115537	Diode, 1SS131
DA42	23316675	Diode, Zener, MTZJ6.2B
DA69	23316675	Diode, Zener, MTZJ6.2B
DB01	23358493	LED, SPR54MVWFLMN
DB03	23358522	LED, SIR-56SB3F
DD80	23115537	Diode, 1SS131
DR01	23316817	Diode, 1SS120-7
DV01	23316686	Diode, Zener, MTZJ9.1A
DV02	23316686	Diode, Zener, MTZJ9.1A
DV03	23316686	Diode, Zener, MTZJ9.1A
DV04	23316686	Diode, Zener, MTZJ9.1A
DV05	23316686	Diode, Zener, MTZJ9.1A
DV06	A7150258	Diode, 1SS176
DW04	A7150258	Diode, 1SS176
DW05	A7150258	Diode, 1SS176
DW06	A7568475	Diode, TVR-2D
DW07	A7568475	Diode, TVR-2D
DW20	A7150258	Diode, 1SS176
DW21	A7150258	Diode, 1SS176
DY601	23115537	Diode, 1SS131
DY602	23115537	Diode, 1SS131
DZ01	23118622	Diode, Zener, RD10ESA B2

MISCELLANEOUS

B202	23470302	Frame, Back Terminal (55PJ5UE)
B202	23470290	Frame, Back Terminal (55PJ5UH)
B202	23470292	Frame, Back Terminal (55PJ5UC)
B202	23470305	Frame, Back Terminal (61PJ5UE)
B202	23470291	Frame, Back Terminal (61PJ5UH)
B202	23470301	Frame, Back Terminal (61PJ5UC)
⚠F470	23144873	Fuse, 1.0A
F470A	23165431	Holder, Fuse
F470B	23165431	Holder, Fuse
⚠F801	23144519	Fuse, 6.3A
F801A	23165433	Holder, Fuse
⚠F802	23144832	Fuse, 2.0A
F802A	23165431	Holder, Fuse
F802B	23165431	Holder, Fuse
⚠F803	23144832	Fuse, 2.0A
F803A	23165431	Holder, Fuse
F803B	23165431	Holder, Fuse
⚠F804	23144832	Fuse, 2.0A
F804A	23165431	Holder, Fuse

Location No.	Part No.	Description
F804B	23165431	Holder, Fuse
⚠F805	23144867	Fuse, 4.0A
F805A	23165431	Holder, Fuse
F805B	23165431	Holder, Fuse
G101	23238562	Coil, Peaking, TRF4109AJ
H002	23148231	Module, MVCS43, IF/MPX (55PJ5UE/61PJ5UE)
H002	23148244	Module, MVCS43B, IF/MPX (55PJ5UH/61PJ5UH)
H002	23148242	Module, MVCS43A, IF/MPX (55PJ5UC/61PJ5UC)
H003	23123919	Divider, Antenna, DAE123B
JP010	23237975	Coil, Peaking, TRF4101AC
JP130	24382682	OMF, 6800 ohm, 1W
JP202	23289100	Coil, Peaking, TRF4100AF
KB01	23904946	Remote Sensor, RPM-676CBR-S
P661	23365444	Jack, Earphone
⚠P801	23372030	Power Cord (55PJ5UE/61PJ5UE)
⚠P801	23372023	Power Cord (55PJ5UH/61PJ5UH)
⚠P801	23372029	Power Cord (55PJ5UC/61PJ5UC)
PY630	23365444	Jack, Earphone
⚠S801	23145434	Switch, Power, 2C2P
SA01	23145226	Switch, Push, 1C1P
SA02	23145226	Switch, Push, 1C1P
SA03	23145226	Switch, Push, 1C1P
SA04	23145226	Switch, Push, 1C1P
SA06	23145226	Switch, Push, 1C1P
SA07	23145226	Switch, Push, 1C1P
⚠SR80	23146916	Power Relay, DG1U-12
⚠SR81	23146916	Power Relay, DG1U-12
⚠V901A	23902886	Socket, CRT, 9P
⚠V902A	23902886	Socket, CRT, 9P
⚠V903A	23902886	Socket, CRT, 9P
W661	23151232	Speaker, SPK-1235, 160x160mm, 8 ohm
W662	23151232	Speaker, SPK-1235, 160x160mm, 8 ohm
X401	23153721	Ceramic Resonator, 503kHz, TCR1023
X501	23153961	Crystal, 3.58MHz
X503	23153979	Crystal, 4.43MHz
XA01	23153325	Ceramic Resonator, 8.00M, TCR1056
XQ01	23153969	Crystal, 4MHz
XT01	23153012	Crystal, 27MHz
⚠Z410	23110834	Focus Pack, TPA6026
⚠Z410A	23368609	Cable, Focus
Z450	24082877	CR Block, TPA5007
Z470	23110835	Focus Power, TPA6025A
Z702	23103800	Filter, TEM2026D
Z703	23103800	Filter, TEM2026D
Z704	23103800	Filter, TEM2026D
Z705	23103800	Filter, TEM2026D
Z706	23103800	Filter, TEM2026D
Z707	23103800	Filter, TEM2026D
Z711	23103800	Filter, TEM2026D
Z712	23103800	Filter, TEM2026D
⚠Z801	23904998	IC, HIC1016
⚠Z889	23144451	Protector, PRF5000, 125V, 5A
⚠Z890	23144451	Protector, PRF5000, 125V, 5A

Location No.	Part No.	Description
ZV01	23107519	Ceramic Video Trap, 4.43MHz, TCF1086
ZY01	23148247	Module, PMMU04H, MULTI PIP

PC BOARD ASSEMBLIES

* U021	CRT Drive (Red) Board, PB5937-1 (55PJ5UE/61PJ5UE)
* U021	CRT Drive (Red) Board, PB5797-1 (55PJ5UH/61PJ5UH)
* U021	CRT Drive (Red) Board, PB5934-1 (55PJ5UC/61PJ5UC)
* U022	CRT Drive (Green) Board, PB5937-2 (55PJ5UE/61PJ5UE)
* U022	CRT Drive (Green) Board, PB5797-2 (55PJ5UH/61PJ5UH)
* U022	CRT Drive (Green) Board, PB5934-2 (55PJ5UC/61PJ5UC)
* U023	CRT Drive (Bule) Board, PB5937-3 (55PJ5UE/61PJ5UE)
* U023	CRT Drive (Bule) Board, PB5797-3 (55PJ5UH/61PJ5UH)
* U023	CRT Drive (Bule) Board, PB5934-3 (55PJ5UC/61PJ5UC)
* U024	SVM Board, PB5937-4 (55PJ5UE/61PJ5UE)
* U024	SVM Board, PB5797-4 (55PJ5UH/61PJ5UH)
* U024	SVM Board, PB5934-4 (55PJ5UC/61PJ5UC)
* U025	RMT IN Board, PB5937-5 (55PJ5UE/61PJ5UE)
* U025	RMT IN Board, PB5797-5 (55PJ5UH/61PJ5UH)
* U025	RMT IN Board, PB5934-5 (55PJ5UC/61PJ5UC)
* U026	Front Cont Board, PB5937-6 (55PJ5UE/61PJ5UE)
* U026	Front Cont Board, PB5797-6 (55PJ5UH/61PJ5UH)
* U026	Front Cont Board, PB5934-6 (55PJ5UC/61PJ5UC)
* U027	Front IN Board, PB5937-7 (55PJ5UE/61PJ5UE)
* U027	Front IN Board, PB5797-7 (55PJ5UH/61PJ5UH)
* U027	Front IN Board, PB5934-7 (55PJ5UC/61PJ5UC)
* U028	AC-IN-2 Board, PB5937-8 (55PJ5UE/61PJ5UE)
* U028	AC-IN-2 Board, PB5797-8 (55PJ5UH/61PJ5UH)
* U028	AC-IN-2 Board, PB5934-8 (55PJ5UC/61PJ5UC)
* U029	DPC Board, PB5937-9 (55PJ5UE/61PJ5UE)
* U029	DPC Board, PB5797-9 (55PJ5UH/61PJ5UH)
* U029	DPC Board, PB5934-9 (55PJ5UC/61PJ5UC)
* U401	Def/Power Board, PB5938 (55PJ5UE/61PJ5UE)
* U401	Def/Power Board, PB5923 (55/61PJ5UH,55/61PJ5UC)

Location No.	Part No.	Description
U701	23704749	D-CONVER Board, PB5924 (55PJ5UE/H/C)
U701	23704839	D-CONVER Board, PB5939 (61PJ5UE/H/C)
* U801		CONV/POW2 Board, PB5936 (55PJ5UE,61PJ5UE)
* U801		CONV/POW2 Board, PB5793 (55/61PJ5UH,55/61PJ5UC)
* U802		AC-IN-1 Board, PB6024 (55PJ5UE/61PJ5UE)
* U802		AC-IN-1 Board, PB6023 (55PJ5UH/61PJ5UH)
* U802		AC-IN-1 Board, PB6011 (55PJ5UC/61PJ5UC)
* U901		Signal Board, PB5983 (55PJ5UE)
* U901		Signal Board, PB5795 (55PJ5UH)
* U901		Signal Board, PB5957 (55PJ5UC)
* U901		Signal Borad, PB6144 (61PJ5UE)
* U901		Signal Board, PB5795 (61PJ5UH)
* U901		Signal Board, PB6055 (61PJ5UC)
* UD01		D-Focus Board, PB5925
* UM01		TEXT/RGB Board, PB5843 (55PJ5UE/61PJ5UE)
* UV01		A/V Board, PB5842
* UZ01		COMB/SECAM Board, PB5818
PICTURE TUBE		
⚠V901R	23793577	Projection Tube Ass'y (R) 55 (55PJ5UE/H/C)
⚠V901R	23793614	Projection Tube Ass'y (R) 61 (61PJ5UE/H/C)
E939	23712408	Screw, PP4X,7X8 SZN
⚠V902G	23793578	Projection Tube Ass'y (G) 55 (55PJ5UE/H/C)
⚠V902G	23793615	Projection Tube Ass'y (G) 61 (61PJ5UE/H/C)
E953	23712408	Screw, PP4X,7X8 SZN
⚠V903B	23793579	Projection Tube Ass'y (B) 55 (55PJ5UE/H/C)
⚠V903B	23793616	Projection Tube Ass'y (B) 61 (61PJ5UE/H/C)
E960	23712408	Screw, PP4X,7X8 SZN
TUNER		
H001	23321193	Tuner, EC441LX1
HY01	23321203	Tuner, EC922L
ACCESSORIES		
K902	23306128	Remote Hand Unit, CT-9829 (55PJ5UE/61PJ5UE)
K902	23306140	Remote Hand Unit, CT-9834 (55PJ5UH/C,61PJ5UH/C)
Y101A	23562501	Owner's Manual, English, 55PJ5UE/H/C,61PJ5UE/H/C
Y101B	23562502	Owner's Manual, Hong Kong, 55PJ5UH,61PJ5UH
Y101B	23562503	Owner's Manual, Mandarin, 55PJ5UC,61PJ5UC

Location No.	Part No.	Description
Y108	23122780	AC Adaptor, 2P (55PJ5UC/61PJ5UC)
Y123	23994860	One Sheet Manual

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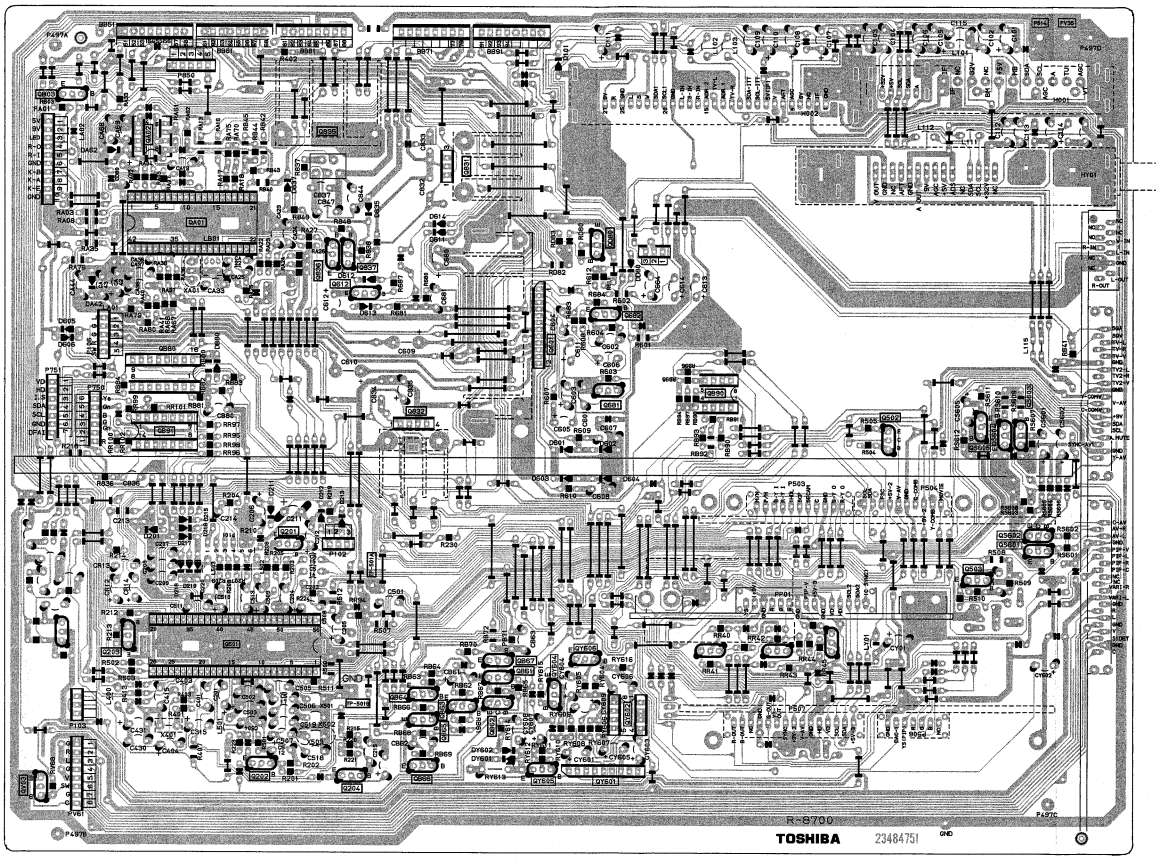
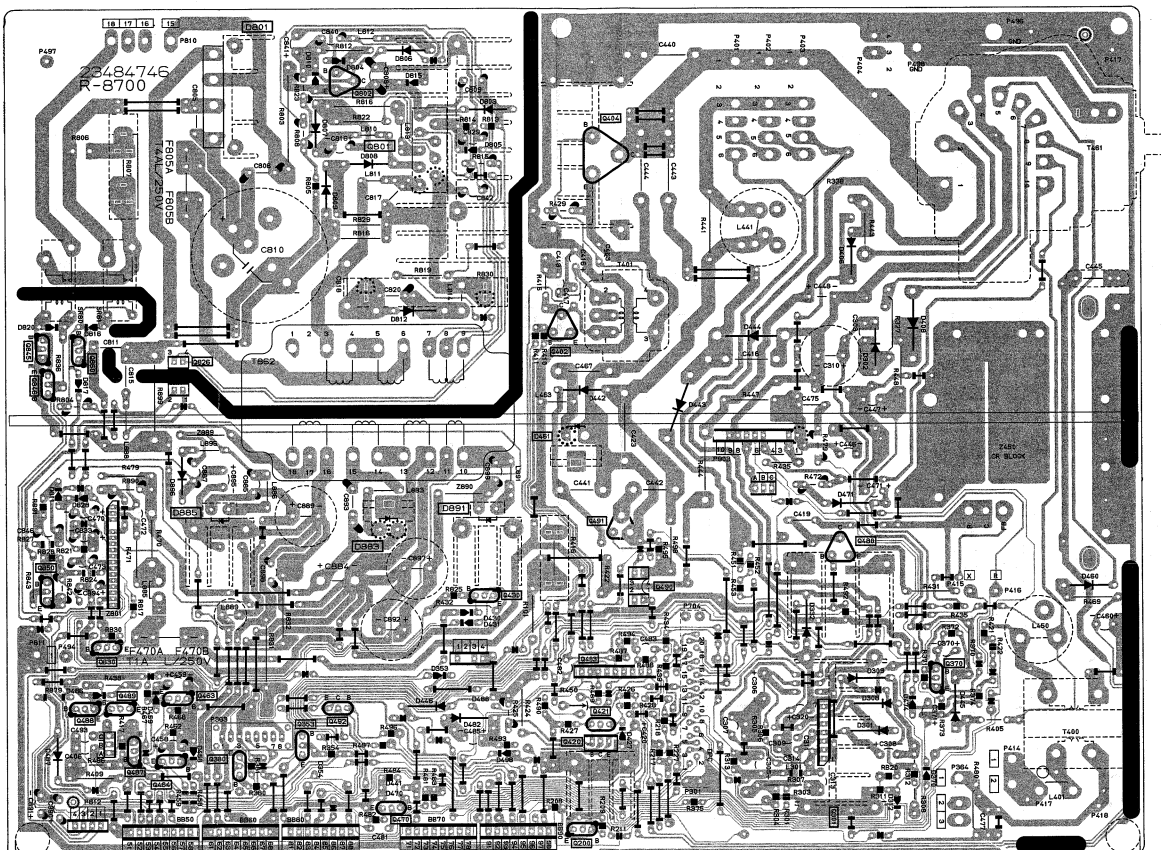
SIGNAL BOARD

BOTTOM (FOIL) SIDE



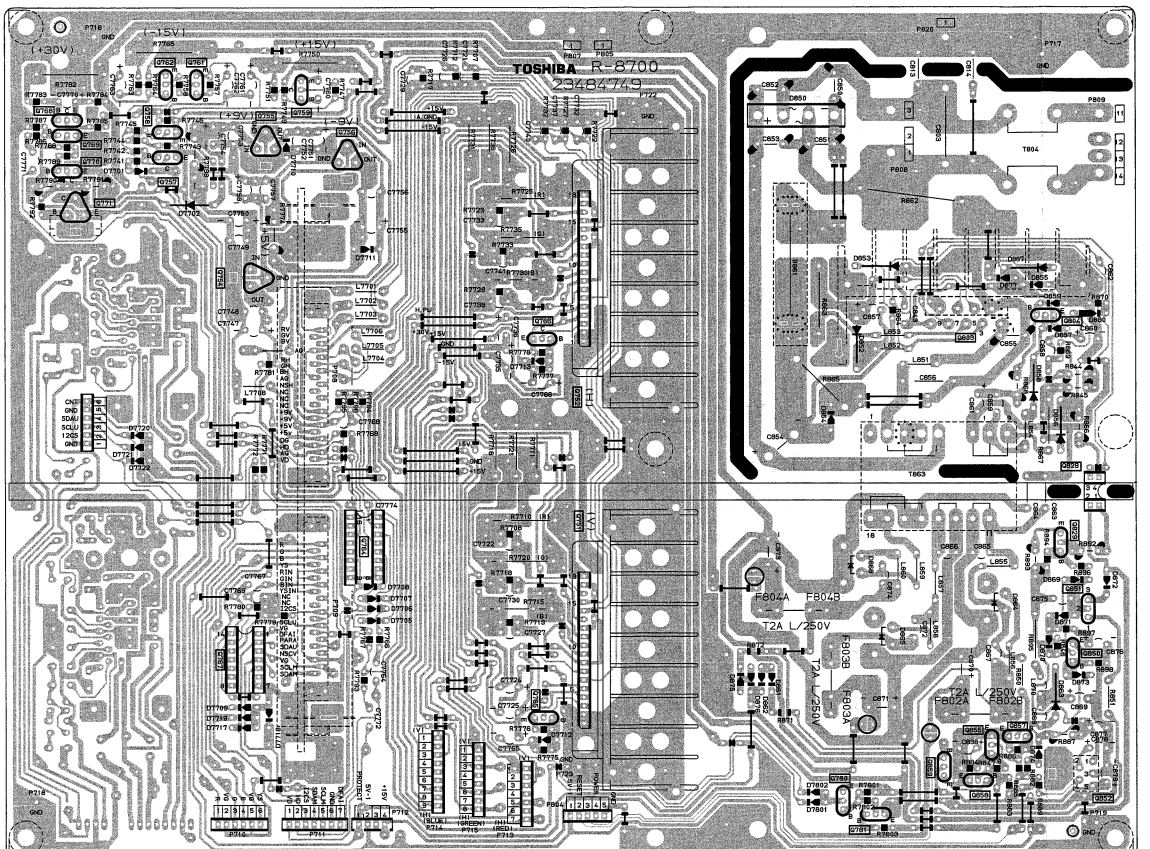
POWER/DEF BOARD

BOTTOM (FOIL) SIDE



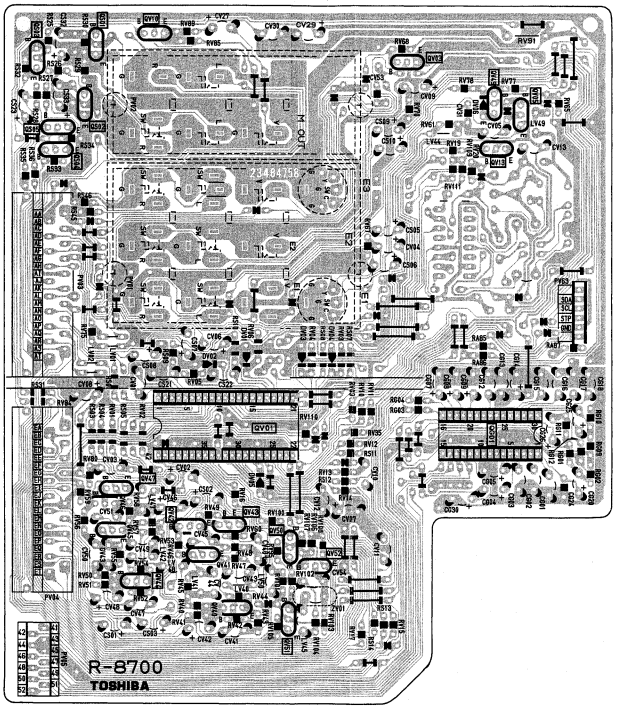
CONV.OUT/POWER2/AMP BOARD

BOTTOM (FOIL) SIDE



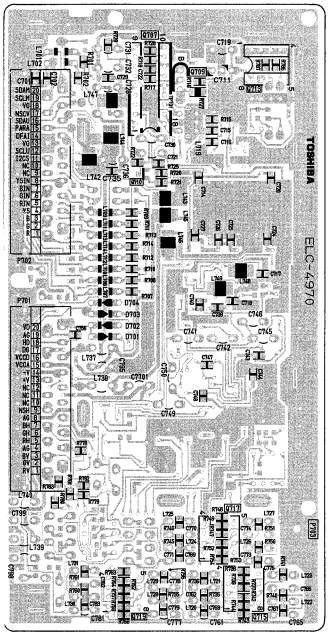
A/V BOARD

BOTTOM (FOIL) SIDE



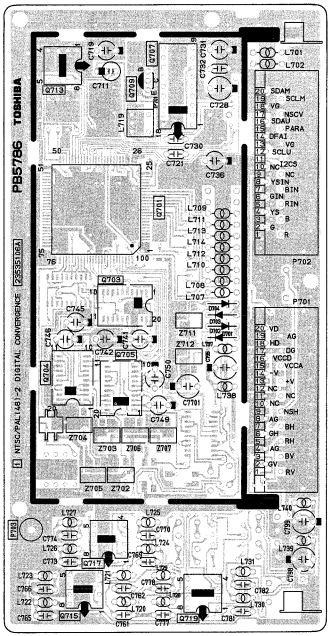
CONV.CONT. BOARD

BOTTOM (FOIL) SIDE



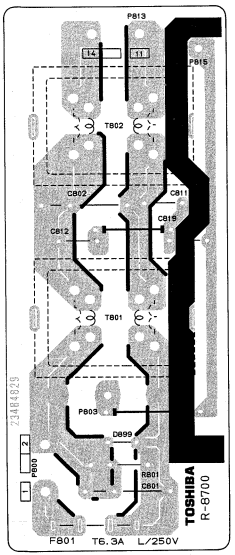
CONV.CONT. BOARD

TOP (PARTS) SIDE



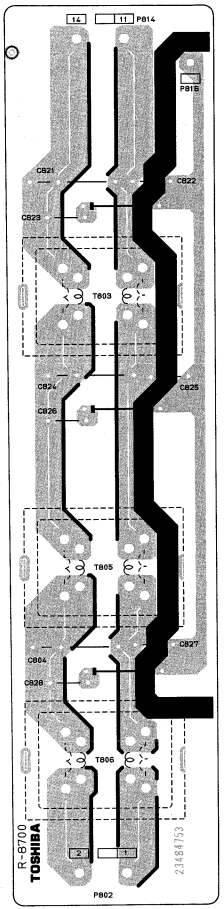
AC IN-1 BOARD

BOTTOM (FOIL) SIDE



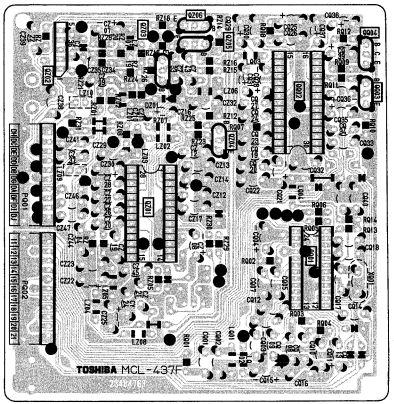
AC IN-2 BOARD

BOTTOM (FOIL) SIDE



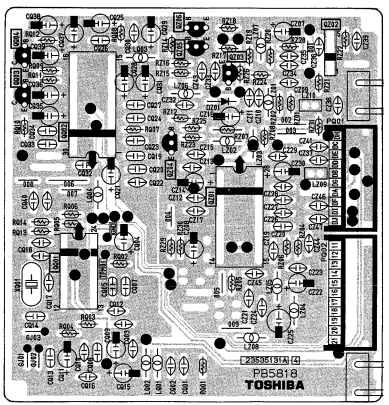
COMB/SECAM BOARD

BOTTOM (FOIL) SIDE



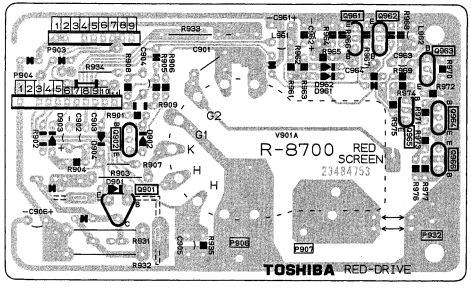
COMB/SECAM BOARD

TOP (PARTS) SIDE



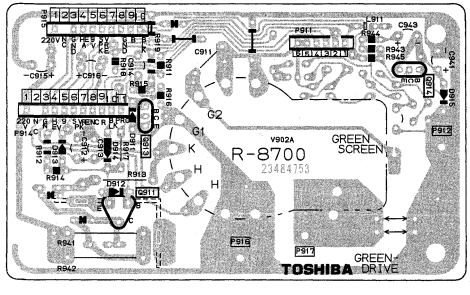
RED DRIVE BOARD

BOTTOM (FOIL) SIDE



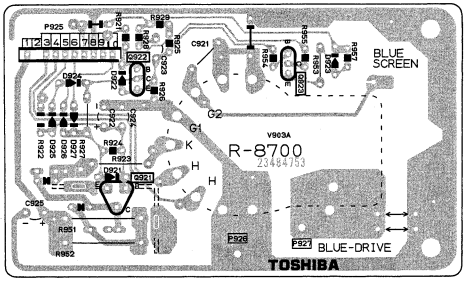
GREEN DRIVE BOARD

BOTTOM (FOIL) SIDE



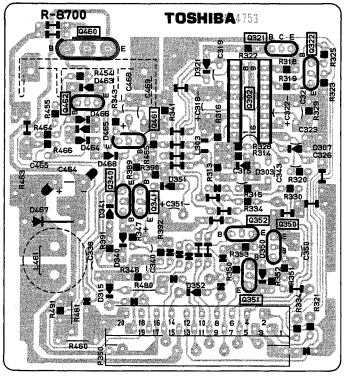
BLUE DRIVE BOARD

BOTTOM (FOIL) SIDE



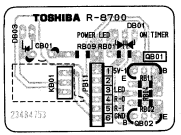
DPC BOARD

BOTTOM (FOIL) SIDE



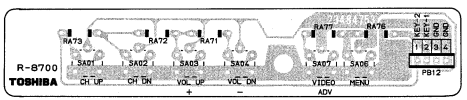
RMT IN BOARD

BOTTOM (FOIL) SIDE



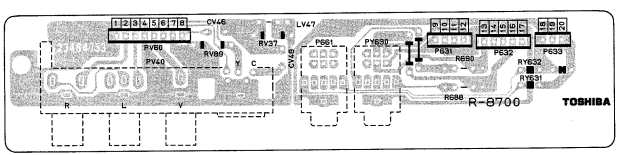
FRONT CONT BOARD

BOTTOM (FOIL) SIDE



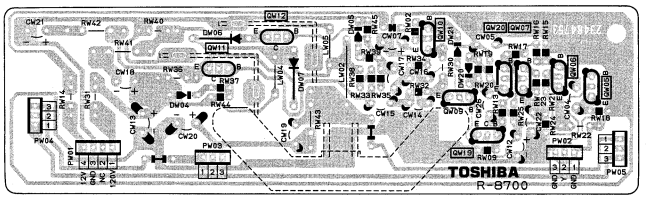
FRONT IN BOARD

BOTTOM (FOIL) SIDE



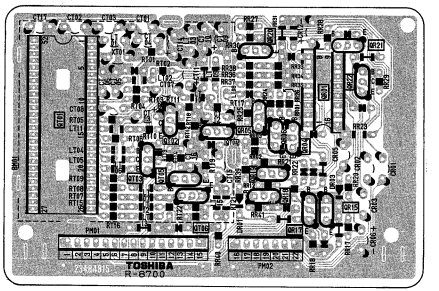
SVM BOARD

BOTTOM (FOIL) SIDE



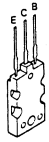
TEXT/RGB SW BOARD (55/61PJ5UE)

BOTTOM (FOIL) SIDE

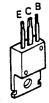


TERMINAL VIEW OF TRANSISTORS

① 2SD1427



② 28B595
2SB834
2SD1052A
2SC1569
2SC2383
2SC2553
2SD525
2SD880

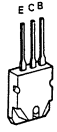


③ 2SA949
2SA1020
2SC752GTM
2SC2230A
2SC2229
2SC2482
2SC2655

④ 2SA562TM
2SA1015
2SA817
2SC1815
2SC1959
2SC2878
2SC388ATM

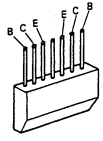
⑤ 2SA1026

⑥ 2SD1092
2SD1294

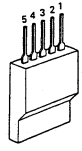


⑦ RN1001
RN1003
RN1004
RN2005
RN1201
RN1202
RN1203
RN1204

⑧ 2SA1349
2SC3381



⑨ D1005T



SCHEMATIC DIAGRAM MODEL: 55PJ5UE,H,C (1/4)
61PJ5UE,H,C

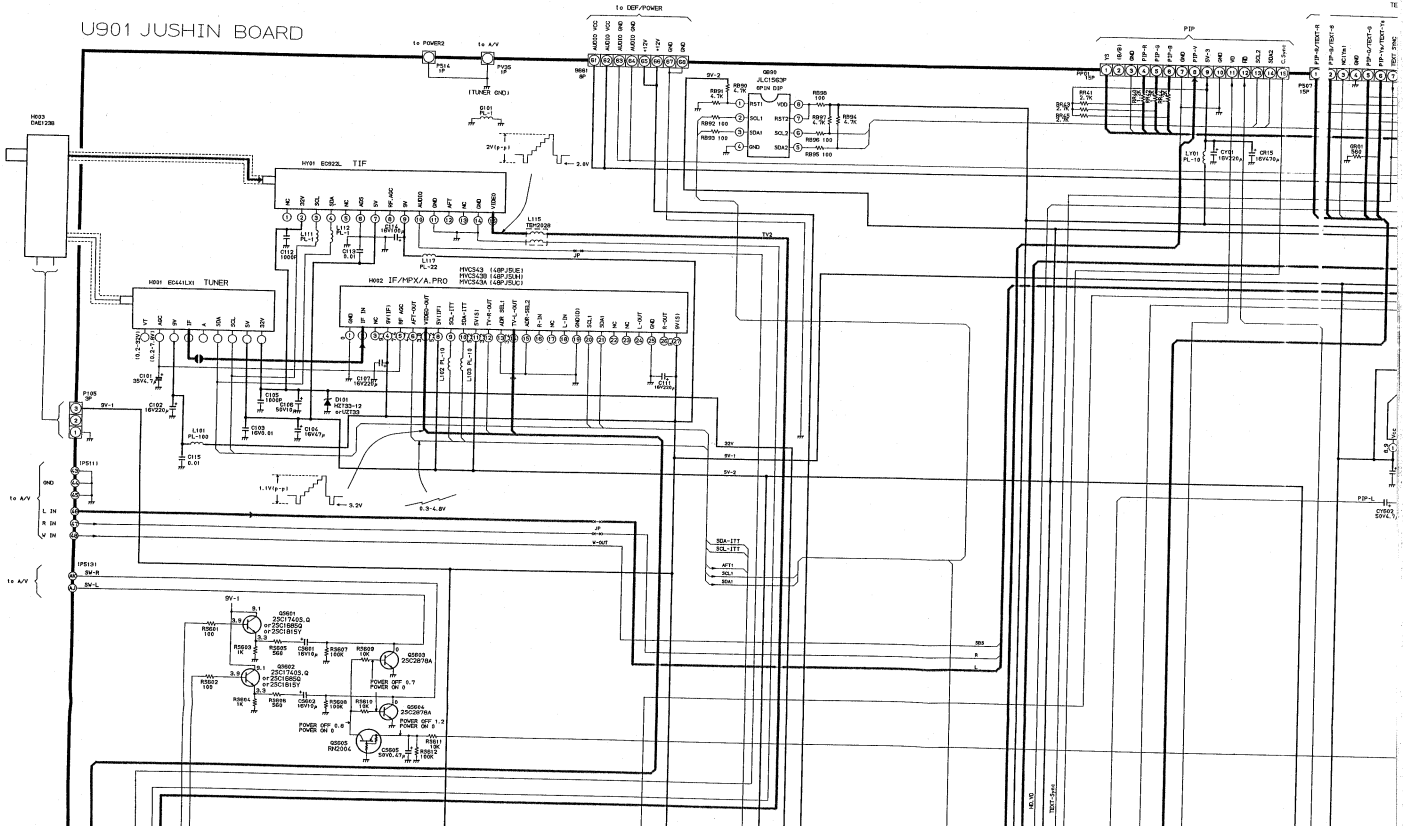
CAUTION: The international hazard symbols "⚠" in the schematic diagram and the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list. The mounting position of replacements is to be identical with originals. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE on page 2. Do not degrade the safety of the receiver through improper servicing.

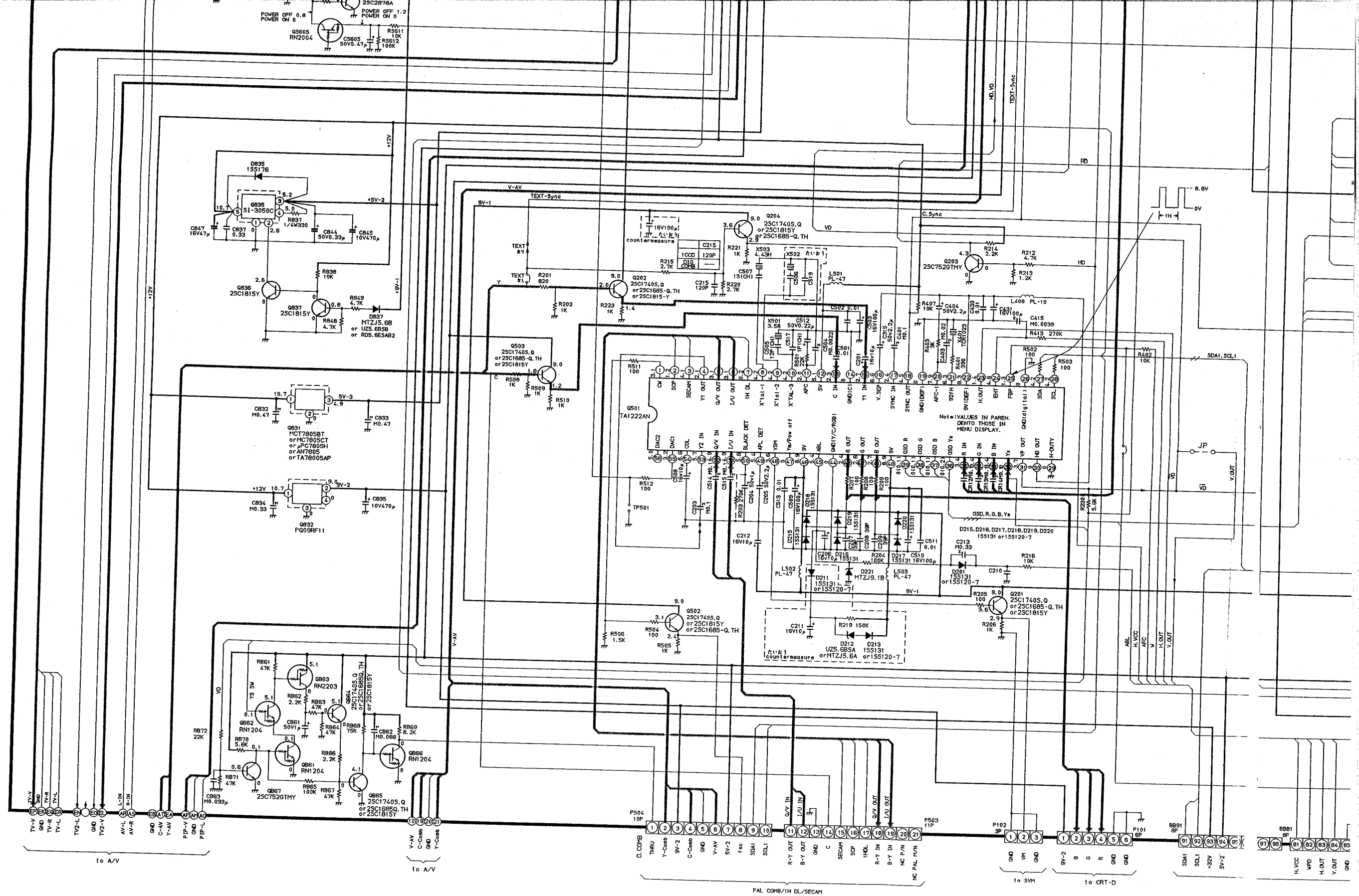
OBSERVATION OF VOLTAGES AND WAVEFORMS

1. Voltages read with VTVM from point shown to chassis ground, line voltage 220 volts, colour bar signal. Voltages reading may vary ±20%.
2. All waveforms are taken using a wide band oscilloscope and a low capacity probe.
3. Waveforms are taken using a standard colour bar signal.
4. Make sure that CONTRAST and COLOUR controls are in mid position and BRIGHTNESS control is almost in maximum position. Set other controls for best picture.

NOTES:

1. D.C. resistance va ... e of a princ... gram. These are m ... isured for se...
2. The circuits are sul ... ect to chang...
3. ⏚ : Solder links





2SC2878A
POWER OFF 0.8
POWER ON 0
POWER OFF 1.2
POWER ON 0
QS605 RN2004
CS605 50V0.47μ
RS611 10K
RS612 100K
+12V
D835 1SS176
Q835 SI-3050C
R837 1/4W330
C847 16V47μ
C837 0.33
C844 50V0.33μ
C845 10V470μ
+5V-2
R838 10K
Q836 2SC1815Y
Q837 2SC1815Y
R849 4.7K
R848 4.7K
D837 MTZJ5.6B or UZ5.6BSB or RD5.6ESAB2
+9V-1
Q831 MCT7805BT or MC7805CT or μPC7805H or AN7805 or TA78005AP
C832 M0.47
C833 M0.47
5V-3
C834 M0.33
Q832 PQ09RF11
9V-2
C835 10V470μ
V-AV
TEXT-Sync
9V-1
TEXT あり
TEXT なし
R201 820
R202 1K
Q202 2SC1740S.Q or 2SC1685-Q.TH or 2SC1815-Y
R223 1K
16V100μ たいおう countermeasure
C215
1CCD 120P
DIG COMB —
R215 2.7K
C215 120P
R220 2.7K
Q204 2SC1740S.Q or 2SC1815Y or 2SC1685-Q.TH
R221 1K
X503 4.43H
X502 たいおう
C507 13(CH)
L501 PL-47
Q503 2SC1740S.Q or 2SC1685-Q.TH or 2SC1815Y
R508 1K
R509 1K
R510 1K
R511 100
Q501 TA1222AN
CW SCP SECAM Y1 OUT Q/V OUT I/U OUT 1H DL X'tal-1 X'tal-2 X'TAL-3 APC 5V C IN GND(C) Y1 IN V.SEP SYNC IN SYNC OUT GND(DEF) AFC-1 92fH 9V(DEF) H.OUT EHT FBP GND(digital) SDA SCL
DAC2 DAC1 COL Y2 IN Q/V IN I/U IN BLACK DET APL DET VSM Ym/Pow off 9V ABL GND(Y/C/RGB) R OUT G OUT B OUT 9V OSD R OSD G OSD B OSD Ys R IN G IN B IN Ys VP OUT HD OUT H-DUTY
Note: VALUES IN PAREN. DENTO THOSE IN MENU DISPLAY.
X501 3.58
C512 50V0.22μ
C502 0.01
C503 16V100μ
C505 12P(CH)
C517 1P(CH)
R501 22K
C504 M0.0022
C501 0.01
C201 16V10μ
C315 50V2.2μ
C401 M0.1
R407 10K
C404 50V2.2μ
C430 0.01
C431 16V100μ
L400 PL-10
C415 M0.0039
R413 270K
R403 3K
C403 M0.02
X401 TCR1023
R401 390
R502 100
R503 100
R402 10K
SDA1, SCL1
C.Sync
VD
HD
HD.VD
TEXT-Sync
Q203 2SC752GTMY
R214 2.2K
R212 4.7K
R213 1.2K
8.8V
0V
1H
JP
VD
V.OUT
R512 100
TP501
C508 16V10μ
C514 M0.1
C515 M0.1
C203 M0.1
R203 270K
C204 50V1μ
C205 50V2.2μ
C513 0.01
C509 16V100μ
D218 1SS131
C212 16V10μ
D215 1SS131
D219 1SS131
C206 16V10μ
D216 1SS131
C207 39P
C208 39P
C209 39P
D220 1SS131
C511 0.01
R207 100
R208 100
R209 100
R204 100K
D217 1SS131
C510 16V100μ
L502 PL-47
D211 1SS131 or 1SS120-7
D221 MTZJ9.1B
L503 PL-47
CR12 M0.1
CR13 M0.1
CR14 M0.1
R230 5.6K
OSD.R.G.B.Ys
D215.D216.D217.D218.D219.D220 1SS131 or 1SS120-7
C213 M0.33
D201 1SS131 or 1SS120-7
C210
R216 10K
R205 100
Q201 2SC1740S.Q or 2SC1685-Q.TH or 2SC1815Y
R206 1K
C211 16V10μ
R219 150K
D212 UZ5.6BSA or MTZJ5.6A
D213 1SS131 or 1SS120-7
たいおう countermeasure
Q502 2SC1740S.Q or 2SC1815Y or 2SC1685-Q.TH
R504 100
R505 1K
R506 1.5K
ABL H.VCC AFC W H.OUT V.OUT
VD
YS SW
RB61 47K
QB63 RN2203
RB62 2.2K
RB63 47K
QB64 2SC1740S.Q or 2SC1685Q.TH or 2SC1815Y
QB62 RN1204
CB61 50V1μ
RB64 47K
RB68 75K
CB62 M0.068
RB69 8.2K
RB72 22K
RB70 5.6K
QB61 RN1204
RB66 2.2K
QB66 RN1204
RB71 47K
CB63 M0.033μ
QB67 2SC752GTMY
RB65 100K
RB67 47K
QB65 2SC1740S.Q or 2SC1685Q.TH or 2SC1815Y
TV-V GND TV-R TV-L
L-IN R-IN
TV-V GND TV-R TV-L TV2-L GND TV2-V AV-L AV-R GND C-AV Y-AV PIP-V GND PIP-L
to A/V
V-AV C-Comb GND Y-Comb
to A/V
P504 10P
D.COMB THRU Y-Comb 9V-2 C-Comb GND V-AV 5V-2 fsc SDA1 SCL1
P503 11P
R-Y OUT B-Y OUT GND C SECAM SCP 1HDL R-Y IN B-Y IN NC P/N NC PAL M/N
Q/V IN I/U IN Q/V OUT I/U OUT
PAL COMB/1H DL/SECAM
P102 3P
GND VM GND
to SVM
P101 6P
9V-2 B G R GND GND
to CRT-D
BB91 8P
SDA1 SCL1 +32V 5V-2
BB81 8P
H.VCC WPD H.OUT V.OUT GND

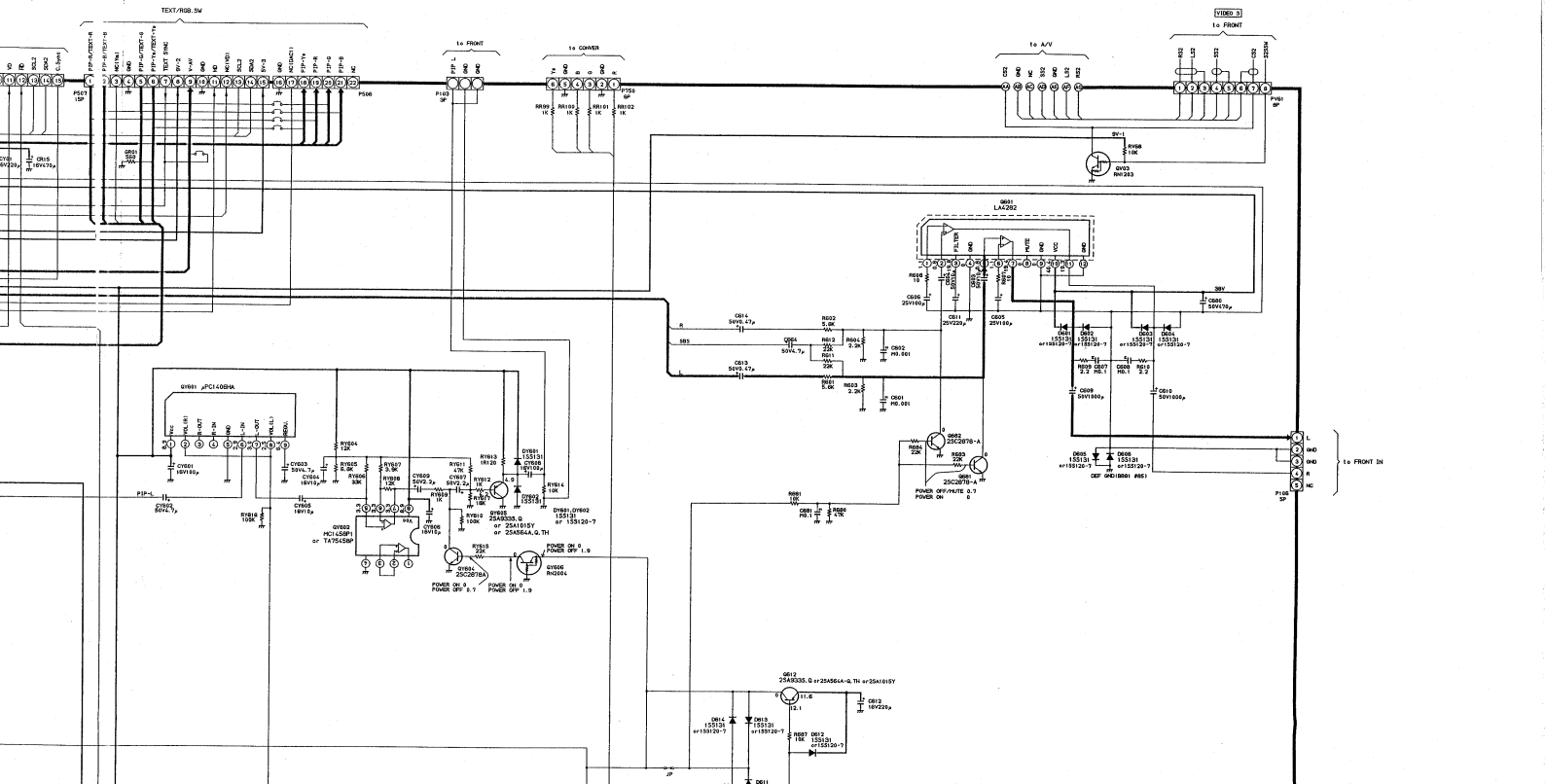
TES:

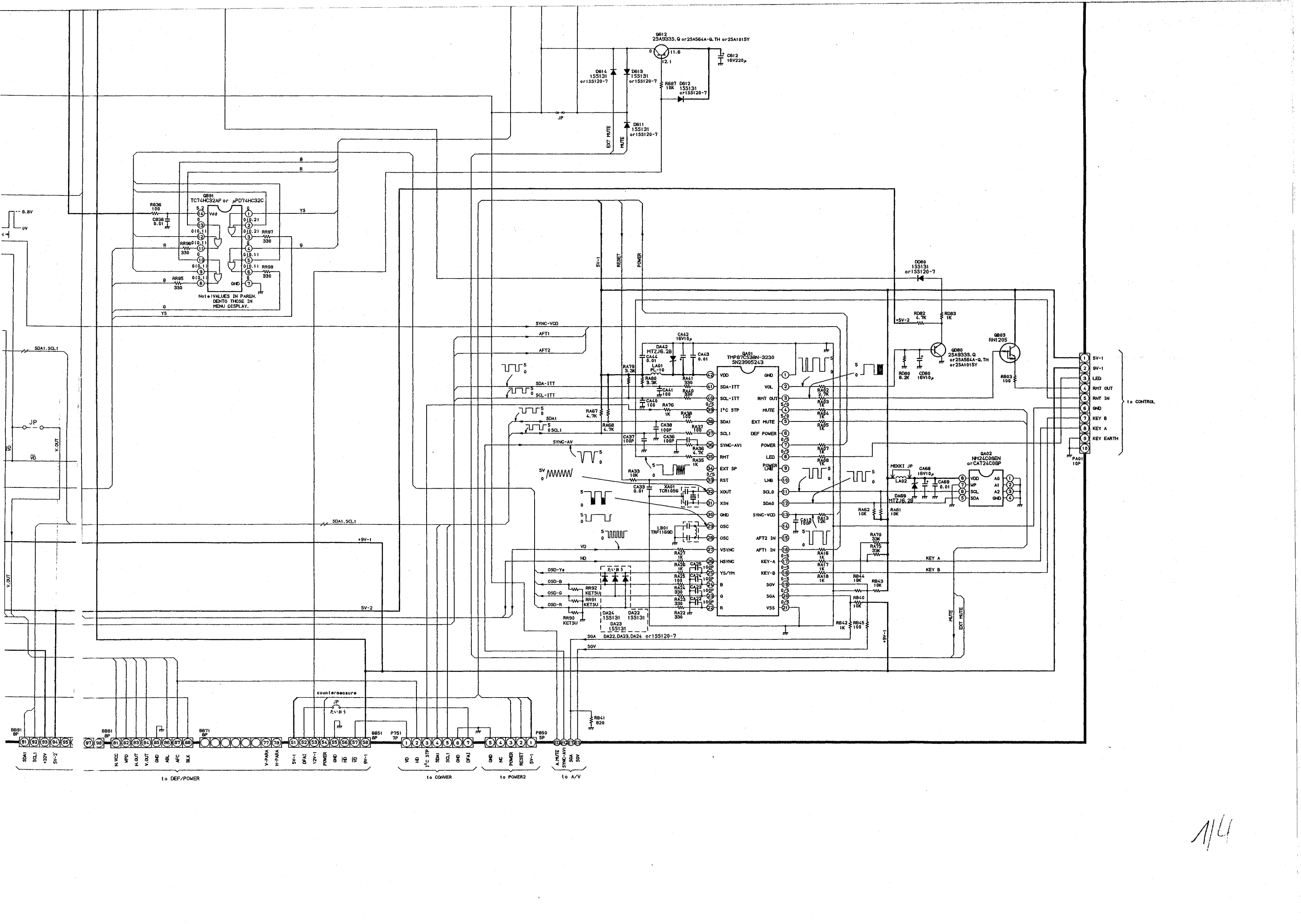
D.C. resistance va ɛ of a principal transformer is shown in this schematic dia-
gram. These are m ısured for separated from the circuit.
The circuits are sul ɛct to change without notice.
: Solder links

EXPRESSION

VALUE OF RESISTOR, CAPACITOR and INDUCTOR

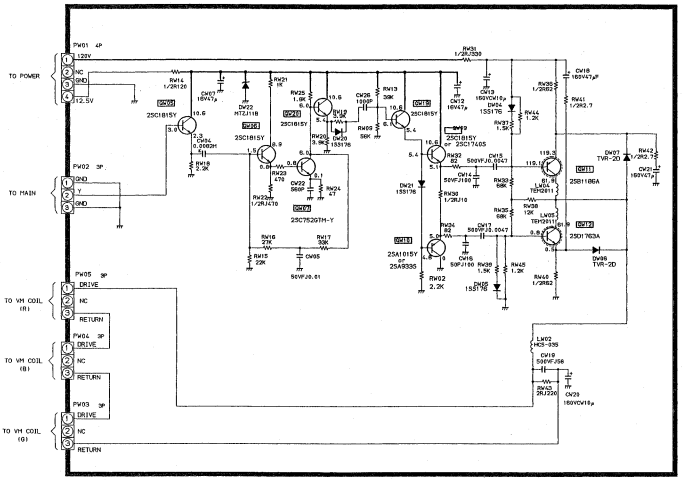
1. Resistance is shown in ohm, k=1,000, M=1,000,000
2. Unless other wise noted in schematic, all capacitor values less than 1 are expressed in μF and the values more than 1 in pF.
3. Unless otherwise noted in schematic, all inductor values more than 1 are expressed in μH, and the values less than 1 in H.

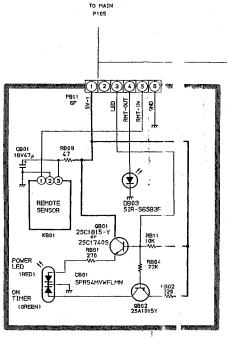



Q612
2SA933S.Q or2SA564A-Q.TH or2SA1015Y
C612 16V220μ
D614 1SS131 or1SS120-7
D613 1SS131 or1SS120-7
R687 10K
D612 1SS131 or1SS120-7
D611 1SS131 or1SS120-7
JP
EXT MUTE
MUTE
QB91
TC74HC32AP or μPD74HC32C
R836 100
C836 0.01
RR96 330
RR95 330
RR97 330
RR98 330
Note:VALUES IN PAREN. DENTO THOSE IN MENU DISPLAY.
5V-1
RESET
POWER
SYNC-VCD
AFT1
AFT2
SDA-ITT
SCL-ITT
SDA1
SCL1
SYNC-AV
QA01
TMP87CS38N-3230
SN23905243
VDD
SDA-ITT
SCL-ITT
I²C STP
SDA1
SCL1
SYNC-AV1
RMT
EXT SP
RST
XOUT
XIN
GND
OSC
VSYNC
HSYNC
YS/YM
B
G
R
GND
VOL
RMT OUT
MUTE
EXT MUTE
DEF POWER
POWER
LED
POWER LNB
LNB
SCL0
SDA0
SYNC-VCD
AFT2 IN
AFT1 IN
KEY-A
KEY-B
SGV
SGA
VSS
CA42 16V10μ
DA42 MTZJ6.2B
CA44 0.01
CA43 0.01
LA01 PL-10
RA79 3.3K
RA80 3.3K
RA41 330
RA40 330
CA41 100
CA40 100
RA76 1K
RA38 100
RA67 4.7K
RA68 4.7K
CA38 100P
RA37 100
CA37 100P
CA36 100P
RA36 4.7K
RA35 1K
RA33 10K
CA33 0.01
XA01 TCR1056
LB01 TRF1169D
RA27 1K
RA26 1K
RA25 100
RA24 330
RA23 330
RA22 330
CA25 100P
CA24 100P
CA23 100P
CA22 100P
VD
HD
OSD-Ys
OSD-B
OSD-G
OSD-R
RR92 KETSU
RR91 KETSU
RR90 KETSU
たいおう
DA24 1SS131
DA22 1SS131
DA23 1SS131
SGA
DA22.DA23.DA24 or1SS120-7
SGV
RA02 2.7K
RA03 1K
RA04 1K
RA05 1K
RA07 1K
RA08 1K
CA13 100P
RA13 12K
RA16 1K
RA17 1K
RA18 1K
RA62 10K
RA61 10K
RA70 33K
RA75 33K
RB44 10K
RB43 10K
RB40 10K
RB42 1K
RB45 100
+9V-1
KEY A
KEY B
MUTE
EXT MUTE
DD80 1SS131 or1SS120-7
+5V-2
RD82 4.7K
RD83 1K
QD80 2SA933S.Q or2SA564A-Q.TH or2SA1015Y
RD80 8.2K
CD80 16V10μ
Q803 RN1205
RB03 100
MEKKI JP
LA02
CA68 16V10μ
CA69 0.01
DA69 MTZJ6.2B
QA02
NM24C08EN orCAT24C08P
VDD
WP
SCL
SDA
A0
A1
A2
GND
PA01 10P
5V-1
9V-1
LED
RMT OUT
RNT IN
GND
KEY B
KEY A
KEY EARTH
to CONTROL
8.8V
0V
SDA1.SCL1
JP
VD
V.OUT
+9V-1
5V-2
countermeasure
JP たいおう
RB41 820
BB91 8P
SDA1
SCL1
+32V
5V-2
BB81 8P
H.VCC
WPD
H.OUT
V.OUT
GND
ABL
AFC
BLK
BB71 8P
V-PARA
H-PARA
BB51 8P
5V-1
DFA1
12V-1
POWER
GND
HD
VD
9V-1
to DEF/POWER
P751 7P
VD
HD
I²C STP
SDA1
SCL1
GND
DFA1
to CONVER
P850 5P
GND
NC
POWER
RESET
5V-1
to POWER2
A.MUTE
SYNC-AV1
SGA
SGV
to A/V
1/4

SCHEMATIC DIAGRAM **MODEL: 55PJ5UE,H,C (2/4)**
61PJ5UE,H,C

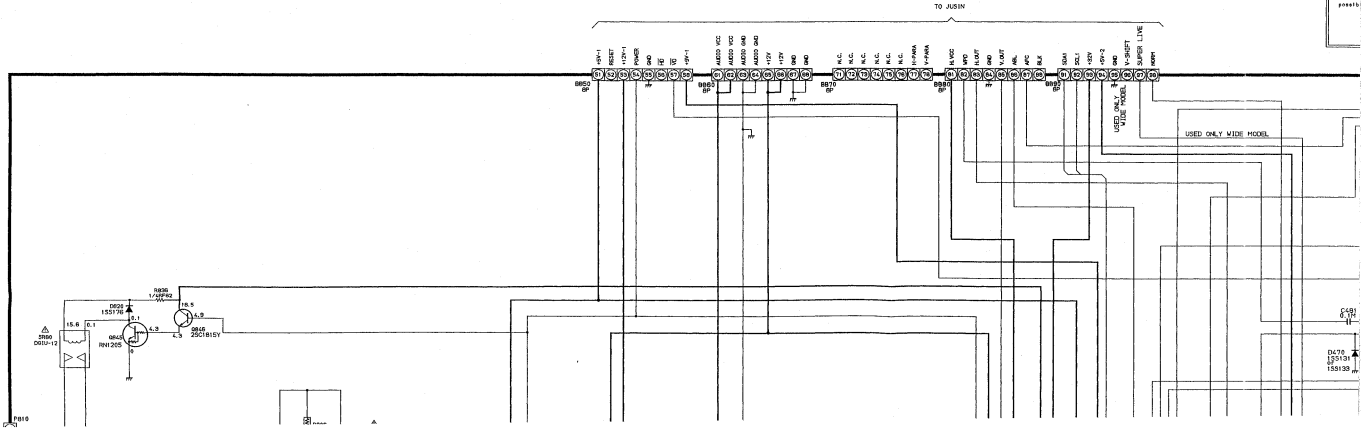
U024 SVM BOARD

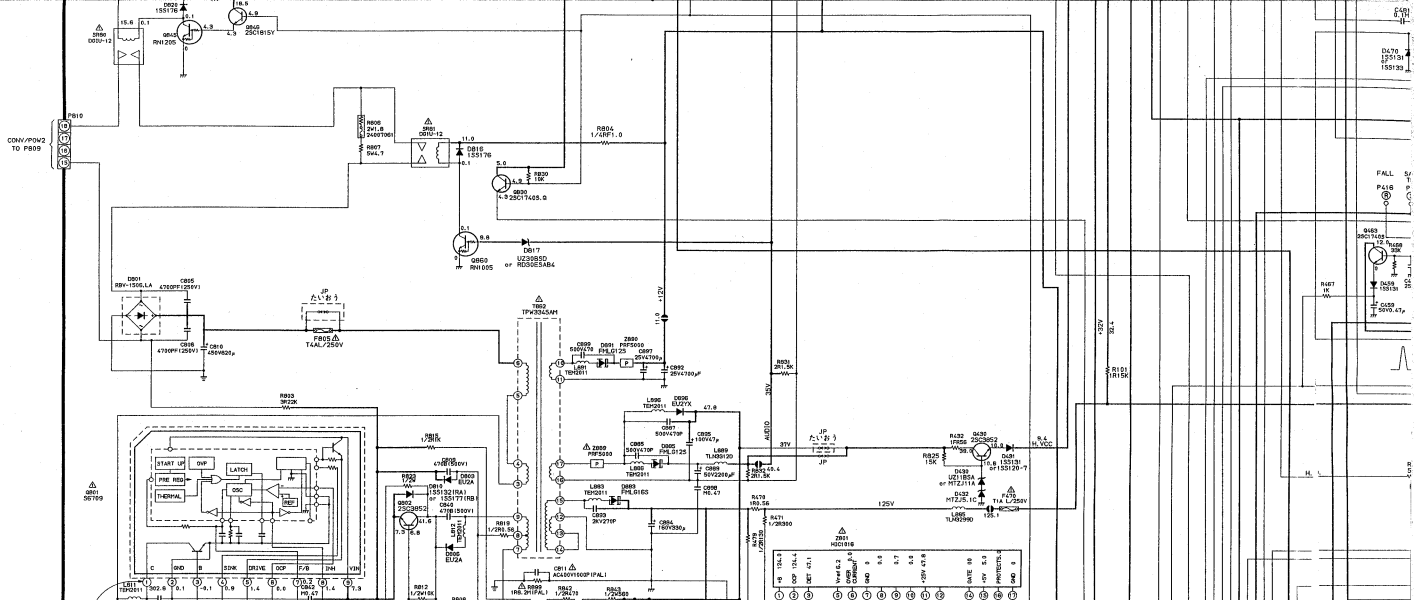


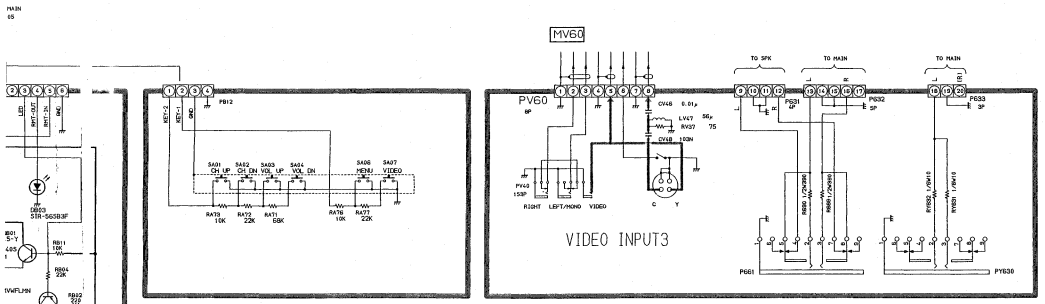


U025 RMT IN BOARD

U026




CONV/POW2
TO P809
P810
D801
RBV-1506LA
C805
4700PF/250V
C806
4700PF/250V
C810
450V820μ
JP
たいおう
F805
T4AL/250V
T802
TPK3045AM
START UP
OVP
LATCH
PRE REG
OSC
THERMAL
OCP
C
GND
B
SINK
DRIVE
OCP
F/B
SYN
VIN
Q801
56769
+12V
+9V
+12V-1
P811
P812
P301
P363
CONV/POW2
TO DPC



U026 FRONT CONT BOARD

U027 FRONT IN BOARD

IN BOARD

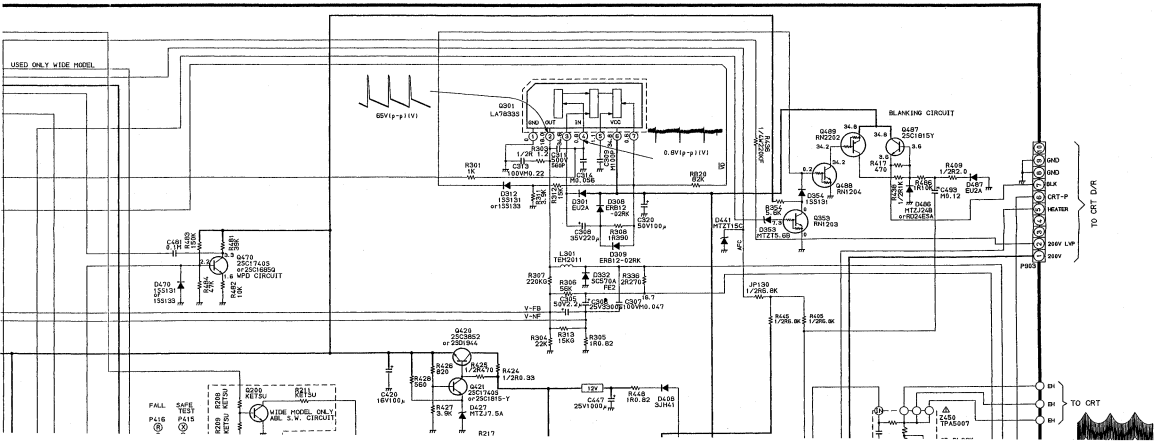
CAUTION

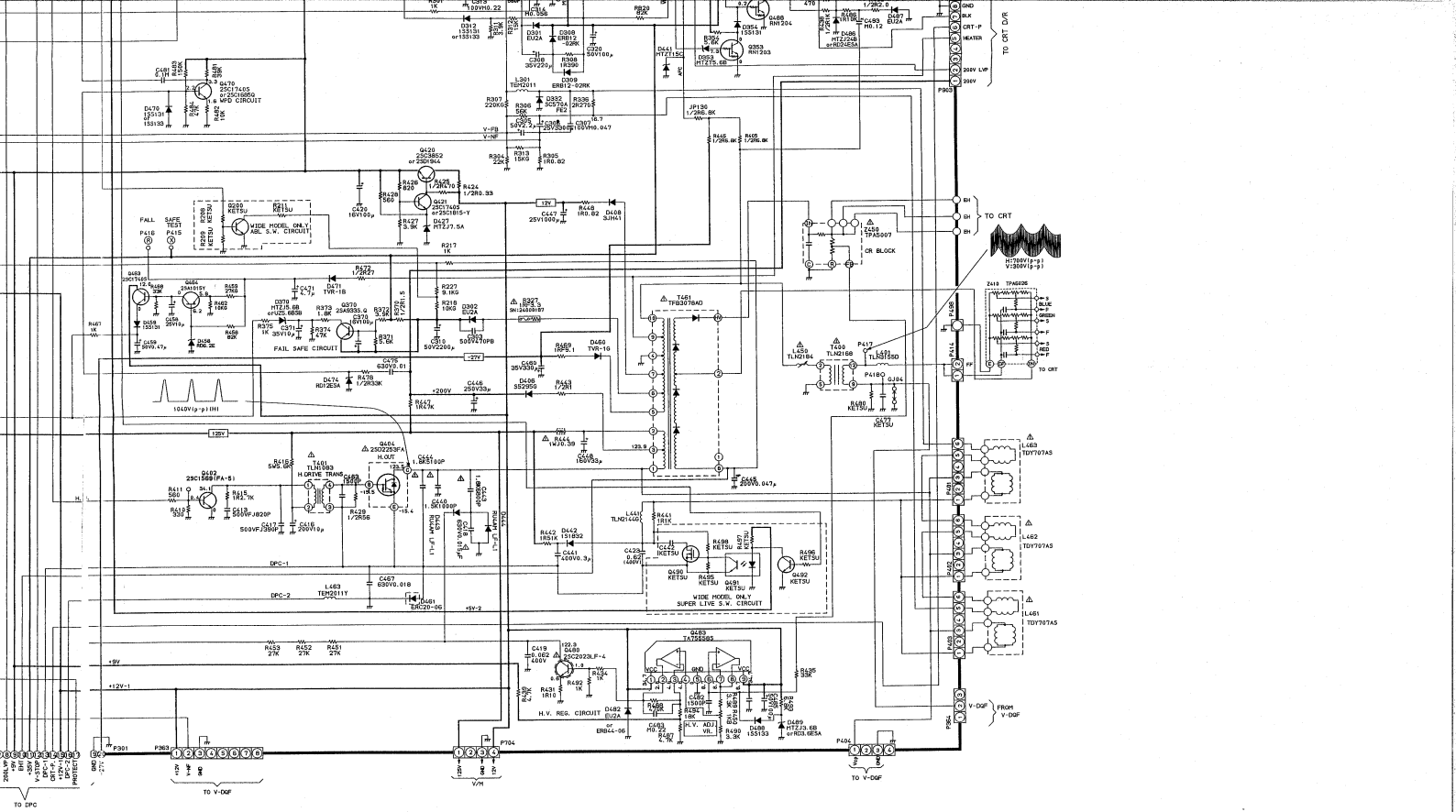
The grounding (⏚ mark) in the schematic diagram is separated from the other circuit ground (⏚ mark) to prevent possible shock hazard.

⏚ : Live ground

⏚ : Isolated ground

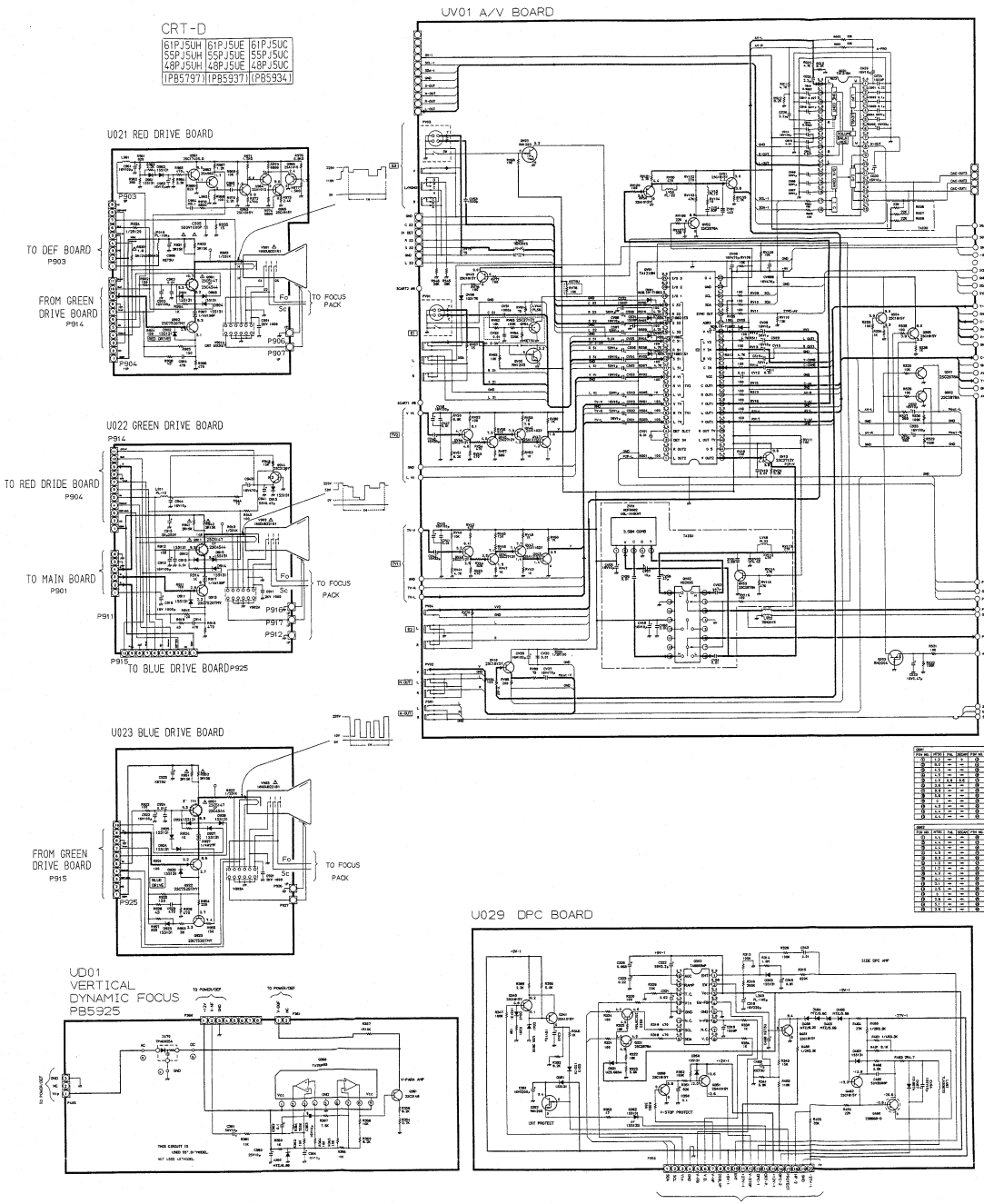
U401 POWER/DEF



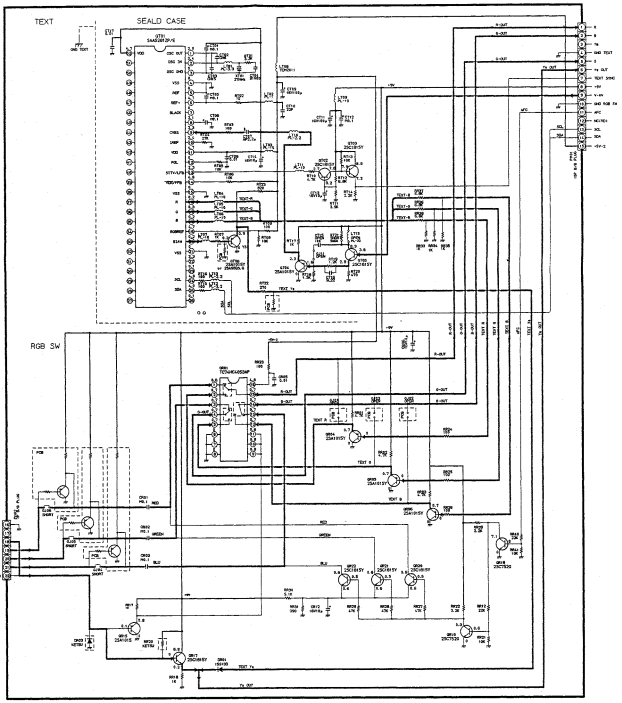

WIDE MODEL ONLY
ABL S.W. CIRCUIT
FAIL SAFE CIRCUIT
H. DRIVE TRANS
H. REG. CIRCUIT
H.V. ADJ
WIDE MODEL ONLY
SUPER LIVE S.W. CIRCUIT
CR BLOCK
TO CRT
TO CRT D/A
TO V-DGF
FROM V-DGF
TO DPC
V/M
GND
BLK
CRT-P
HEATER
200V LVP
200V
BLUE
GREEN
RED
EH
FF
V-DGF

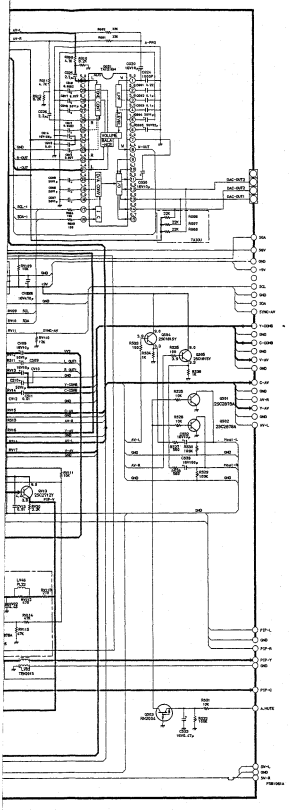
214

SCHEMATIC DIAGRAM **MODEL: 55PJ5UE,H,C (3/4)**
61PJ5UE,H,C

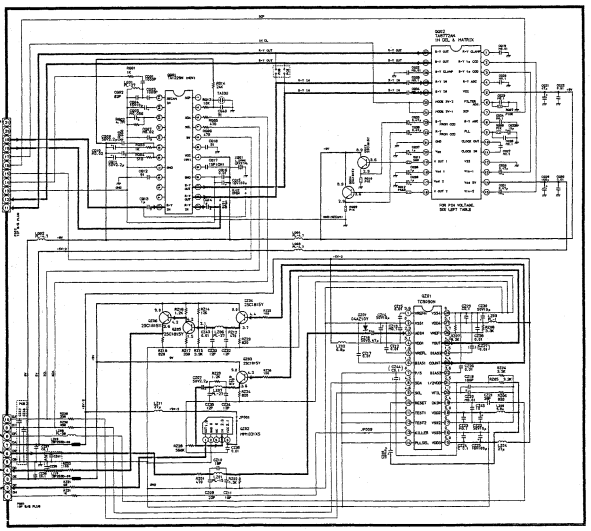


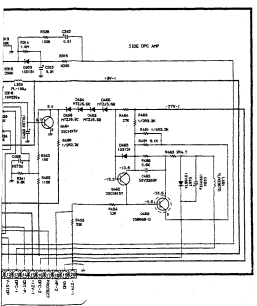
UM01 TEXT/RGB SW BOARD

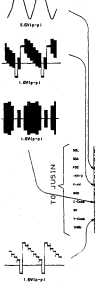




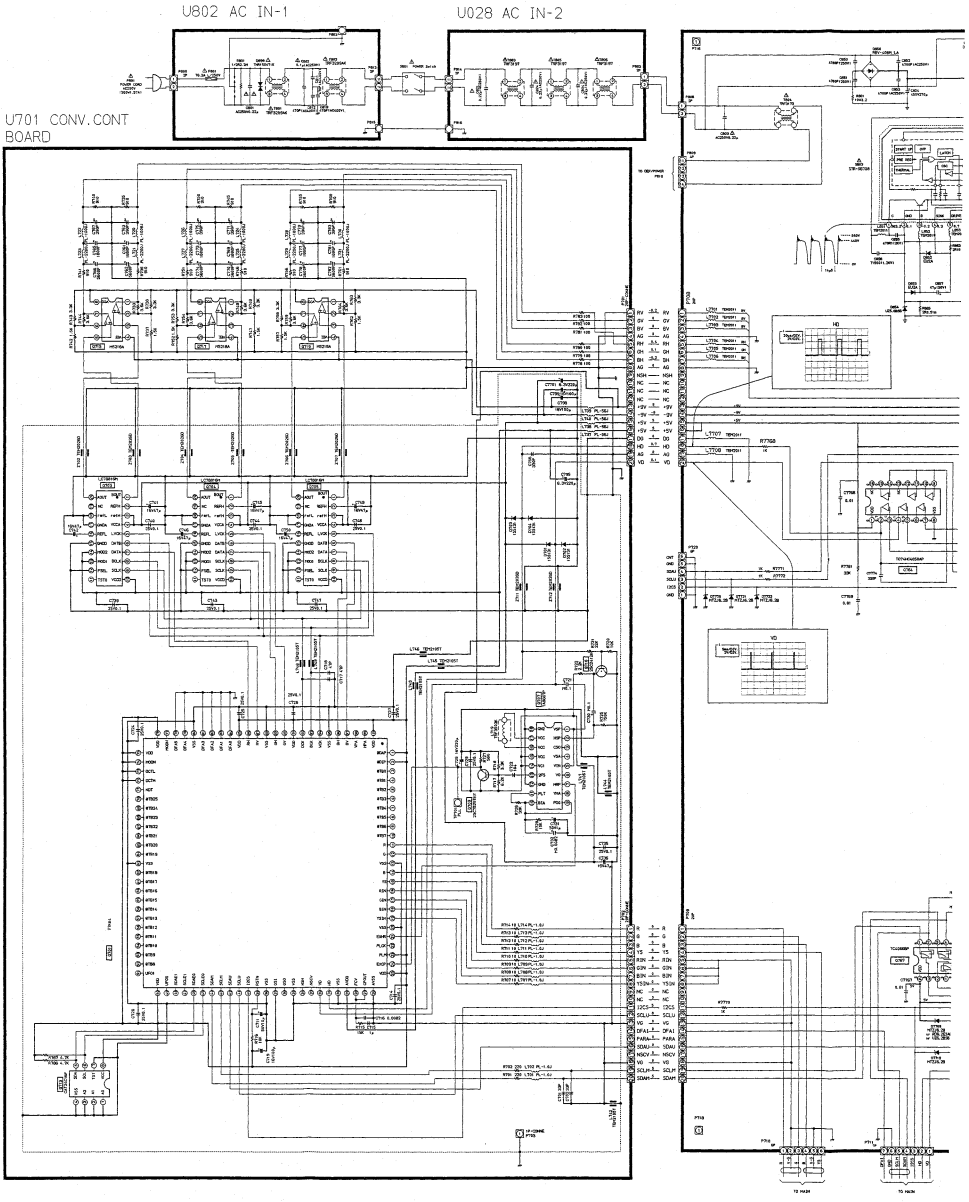
UZ01 COMB/1H DL/SECAM BOARD

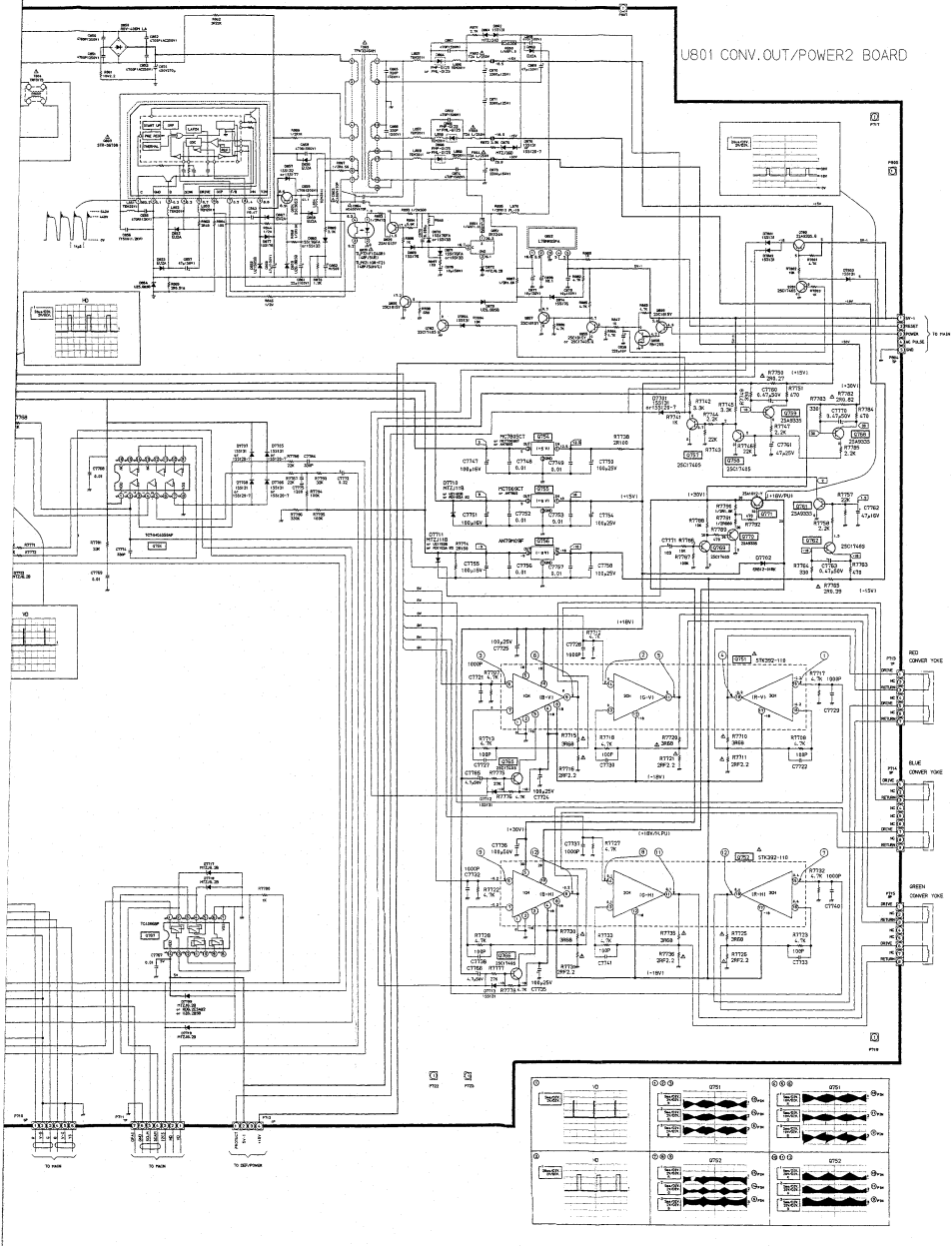






SCHEMATIC DIAGRAM **MODEL: 55PJ5UE,H,C (4/4)**
61PJ5UE,H,C




U801 CONV.OUT/POWER2 BOARD
TO MAIN
RED CONVER YOKE
BLUE CONVER YOKE
GREEN CONVER YOKE
TO MAIN
TO MAIN
TO DEFLECTION

SPECIFICATIONS

Input Power Rating: 210 W, AC 110 ~ 240 V, 50/60 Hz

Aerial Input Impedance: 75 ohm unbalanced type for VHF, UHF and CATV

Television System and Channels:

System	Channel	VHF	UHF	CATV
PAL B/G	C.C.I.R	2 ~ 12	21 ~ 69	X ~ Z + 2, S1 ~ S41
PAL I	UK	–	21 ~ 69	–
PAL D/K	CHINA	1 ~ 12	13 ~ 57	Z-1 ~ Z-35
SECAM B/G	C.C.I.R	2 ~ 12	21 ~ 69	X ~ Z + 2, S1 ~ S41
SECAM D/K	OIRT	1 ~ 12	21 ~ 69	–
NTSC M US	US	2 ~ 13	14 ~ 79	A-6 ~ A-1, A ~ W, AA ~ BBB
NTSC M JAPAN	JAPAN	1 ~ 12	13 ~ 62	M1 ~ M10, S1 ~ S16
Special RF Signal:	4.43NTSC		Sound system	5.5/6.0/6.5MHz
Special RF Signal:	PAL 60Hz		Sound system	5.5/6.0/6.5MHz

Intermediate Frequencies:

Picture I-F carrier frequency ..... 38.0 MHz
Sound I-F carrier frequency ..... 33.5 MHz (4.5 MHz M)
32.5 MHz (5.5 MHz B/G)
32.0 MHz (6.0 MHz I)
31.5 MHz (6.5 MHz D/K)

Colour System: PAL / SECAM / 4.43 NTSC / 3.58 NTSC

Screen Size: Type 55, 61

Sound Output: 14W + 14W (at 10% distortion)

Speakers: 160 mm x 160 mm, 2 pcs

Aux. Terminals: Headphone Jack, S-VIDEO socket, VIDEO/AUDIO input socket, MONITOR output socket

Dimensions:

	(55PJ5UE/H/C)	(61PJ5UE/H/C)
Height	1360 mm	1452 mm
Width	1188 mm	1310 mm
Depth	570 mm	620 mm

Mass: 100 kg (55PJ5UE/H/C), 116.5 kg (61PJ5UE/H/C)

Features: Projection TV, Picture in Picture, NICAM and German stereo, ON/OFF-timer, No signal off, Blue back screen, TV Games, MULTI Language OSD, TELETEXT (55/61PJ5UE only)

Specifications are subject to change without notice.

TOSHIBA CORPORATION
1-1, SHIBAURA 1-CHOME, MINATO-KU, TOKYO 105-01, JAPAN